

**July 28, 2017**

National Stock Exchange of India Limited  
Exchange Plaza, Bandra-Kurla Complex  
Bandra (East), Mumbai – 400 051.  
NSE Symbol: LTTS

The BSE Limited  
Phiroze Jeejeebhoy Towers,  
Dalal Street, Mumbai- 400001  
BSE Script Code: 540115

Dear Sirs,

**Ref: Our letter dated July 03, 2017**

We are sending herewith a copy of the “**L&T Technology Services, Investor Day Presentation**”.

The Presentation is self-explanatory.

Kindly take the above Presentation on record and acknowledge the receipt of the same.

Thanking You,

Yours sincerely,  
**For L&T Technology Services Limited**

  
**Kapil Bhalla**  
Company Secretary  
M. No F3485



# WELCOME

## ENGINEERING THE **CHANGE**

Investor and Analyst Day  
28<sup>th</sup> July 2017, Bangalore



*L&T Technology Services*



# Safe Harbour Statement

Certain statements in this release concerning our future growth prospects are forward-looking statements, which involve a number of risks, and uncertainties that could cause our actual results to differ materially from those in such forward-looking statements. L&T Technology Services Limited (LTTTS) does not undertake to update any forward-looking statement that may be made from time to time by us or on our behalf.



# Engineering The Change



**Dr. Keshab Panda**

CEO & MD,

L&T Technology Services Limited

**ENGINEERING THE CHANGE**

INVESTOR & ANALYST DAY | JULY 28, 2017

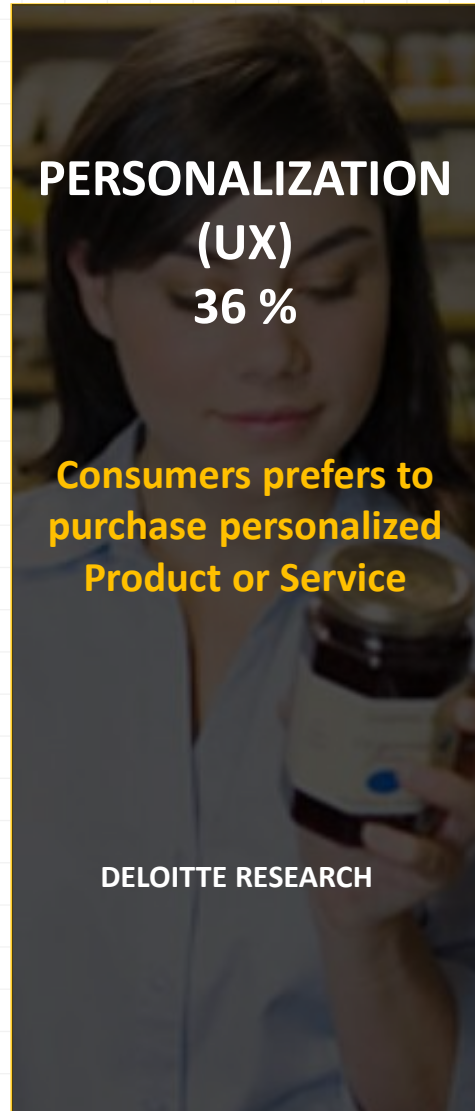
# End Customers needs are changing ...



**5X  
GROWTH**

**B2B Digital Leaders  
compared to others**

**MCKINSEY RESEARCH**



**PERSONALIZATION  
(UX)  
36 %**

**Consumers prefers to  
purchase personalized  
Product or Service**

**DELOITTE RESEARCH**



**SPEED TO MARKET  
22 %**

**CEOs citing adoption of  
new technology as  
major factor for Success**

**BCG RESEARCH**



**CONNECTIVITY  
20.4 BILLION**

**Connected Things in  
Use Worldwide By 2020**

**GARTNER**



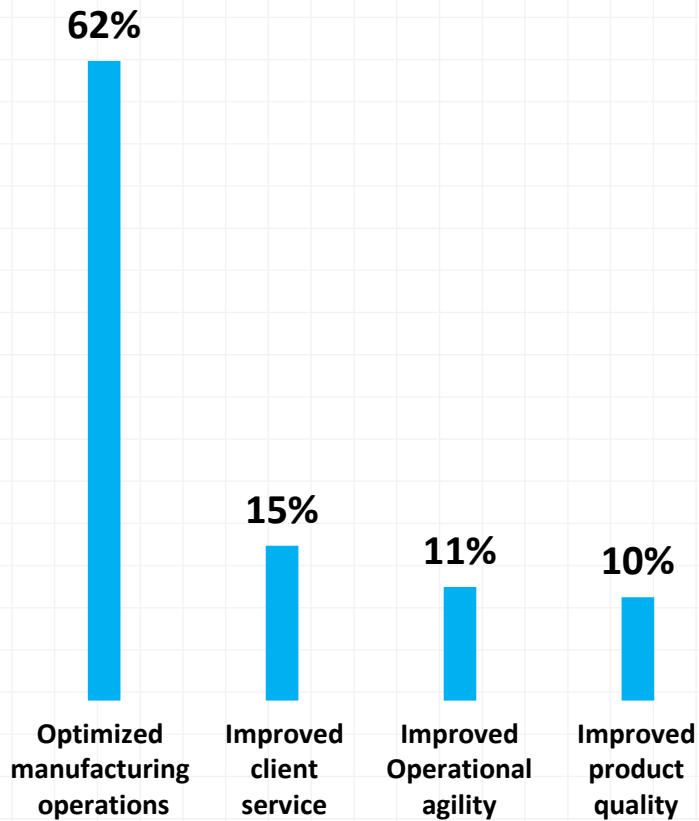
**SOCIALLY  
RESPONSIBLE  
72 %**

**Millennials prefer  
companies with  
positive Social &  
Environmental Impact**

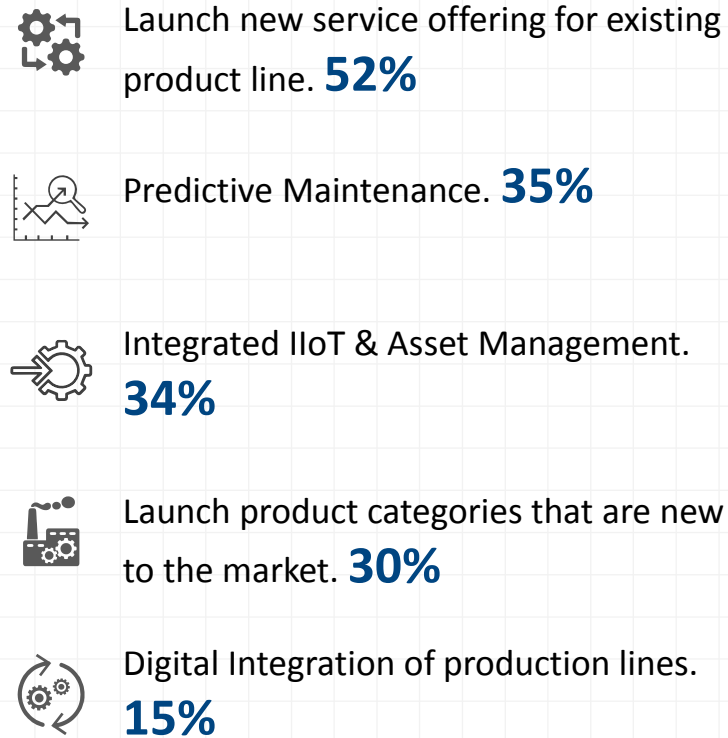
**NIELSEN RESEARCH**

# ...resulting in our customers transforming their business .....

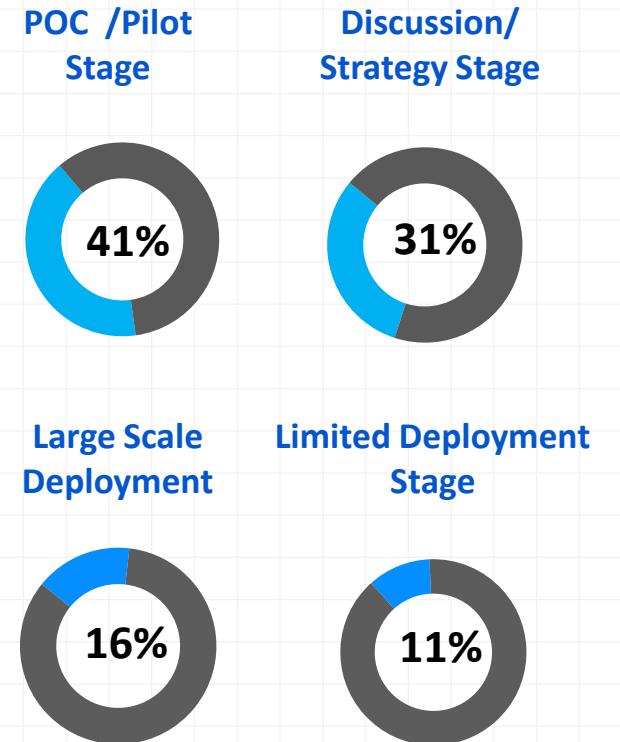
## Key Business Areas Where Digital Investment Has a Significant Impact



## Digital Priorities Over Next 5 Years



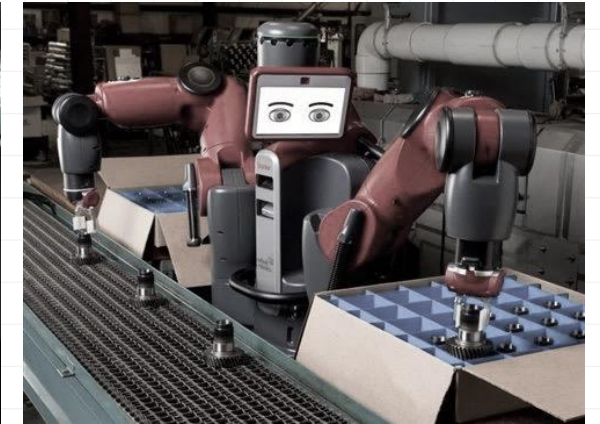
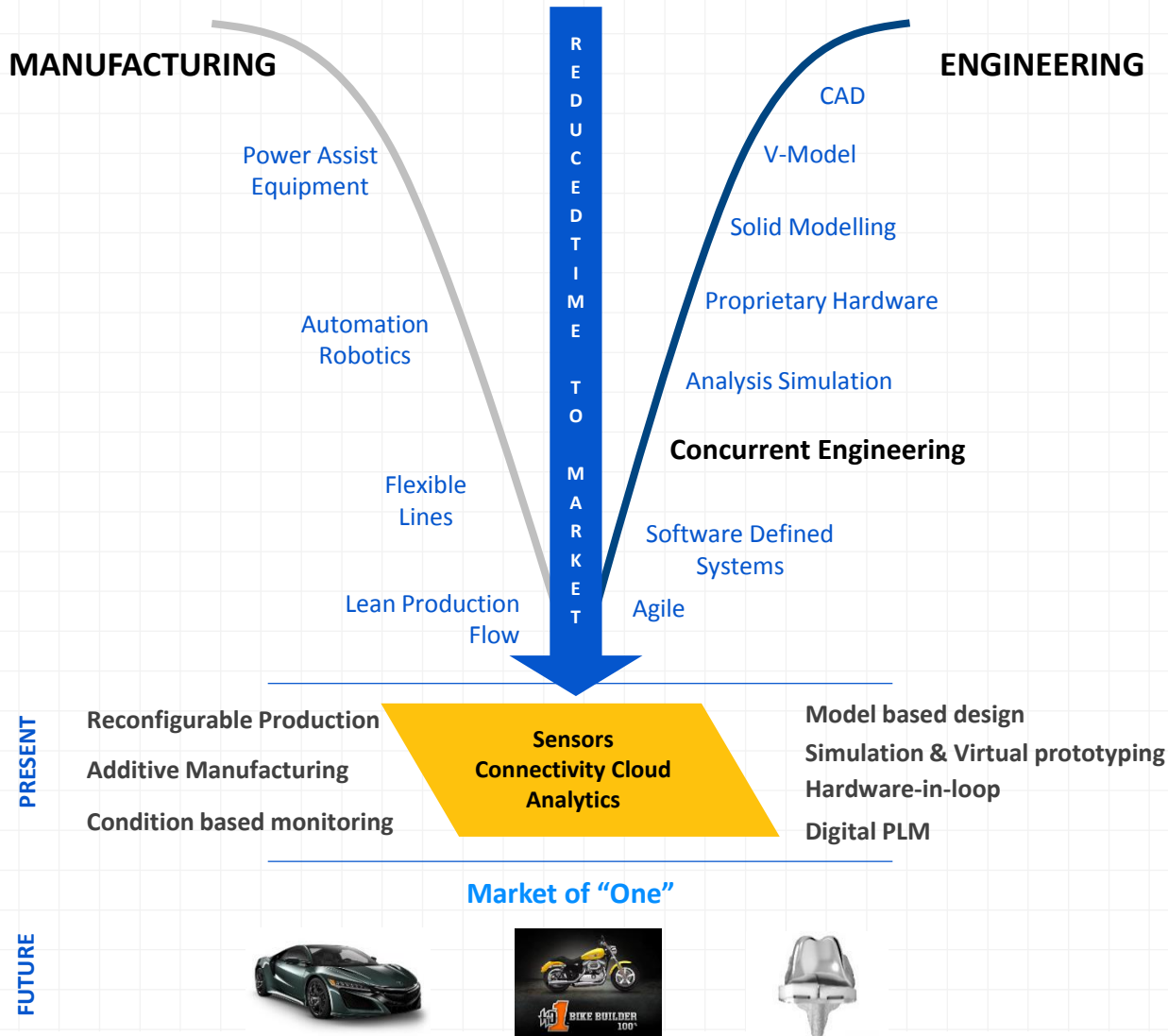
## Level Of Adoption of Digital / Smart Technology in Manufacturing Process



# ...leading to significant changes in the engineering practices...

## 1 Concept To Design To Production In Real Time

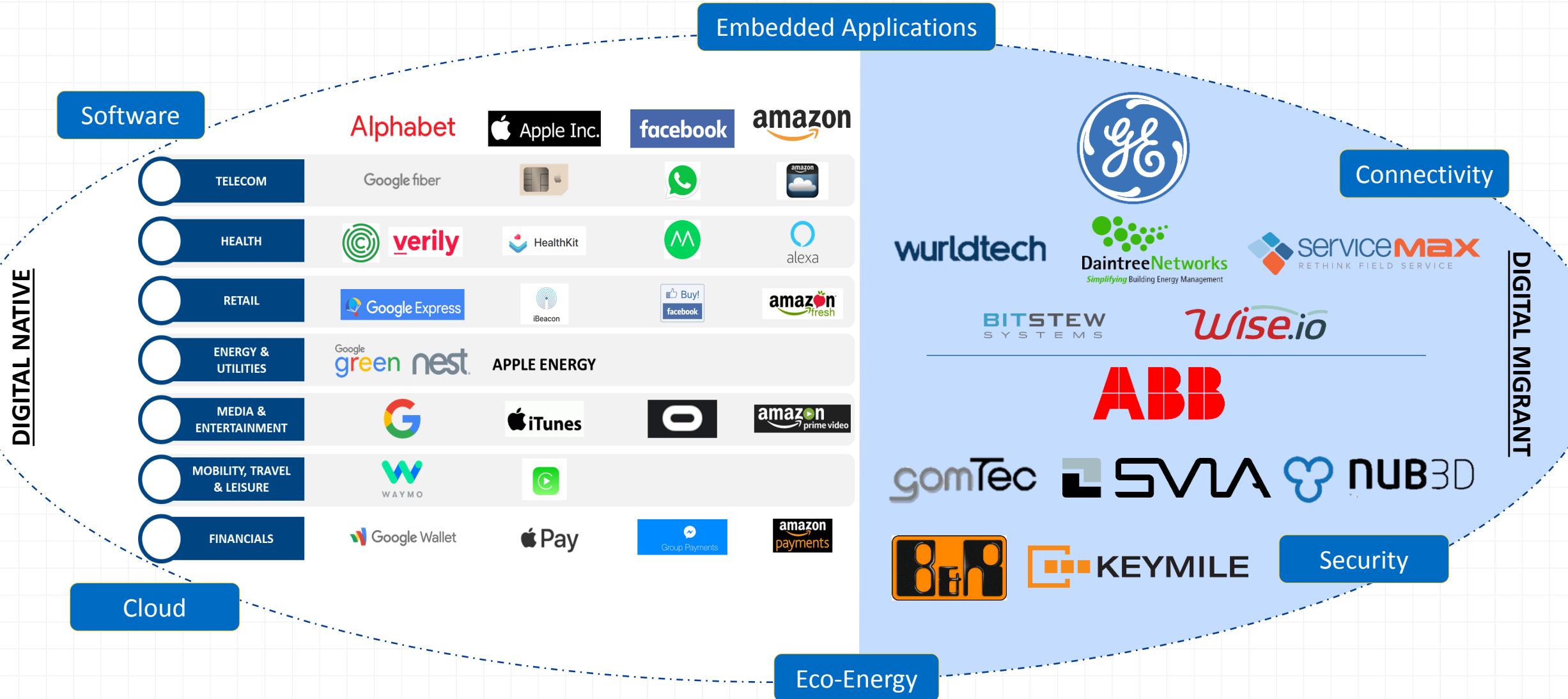
## 2 Advanced HMI Devices Solving Multiple Complex Engineering Need



# ...across all industries by **Marrying Physical to Digital**

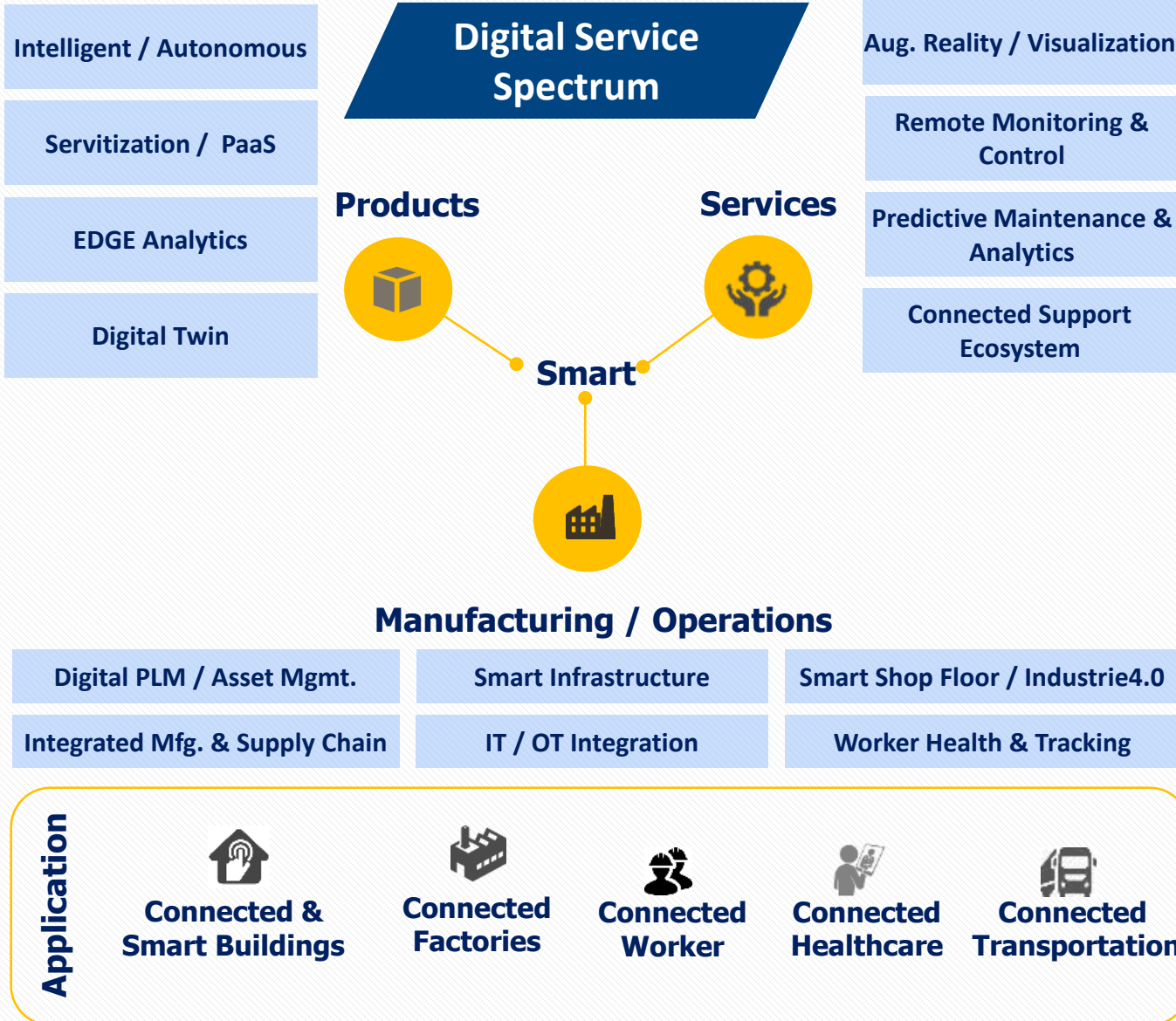
3

## Technology Playing Critical Role In Transformation





# Services Industry : The ideal partner for this **DIGITAL** powered dynamic world



## ENGINEERING AND R&D SERVICES

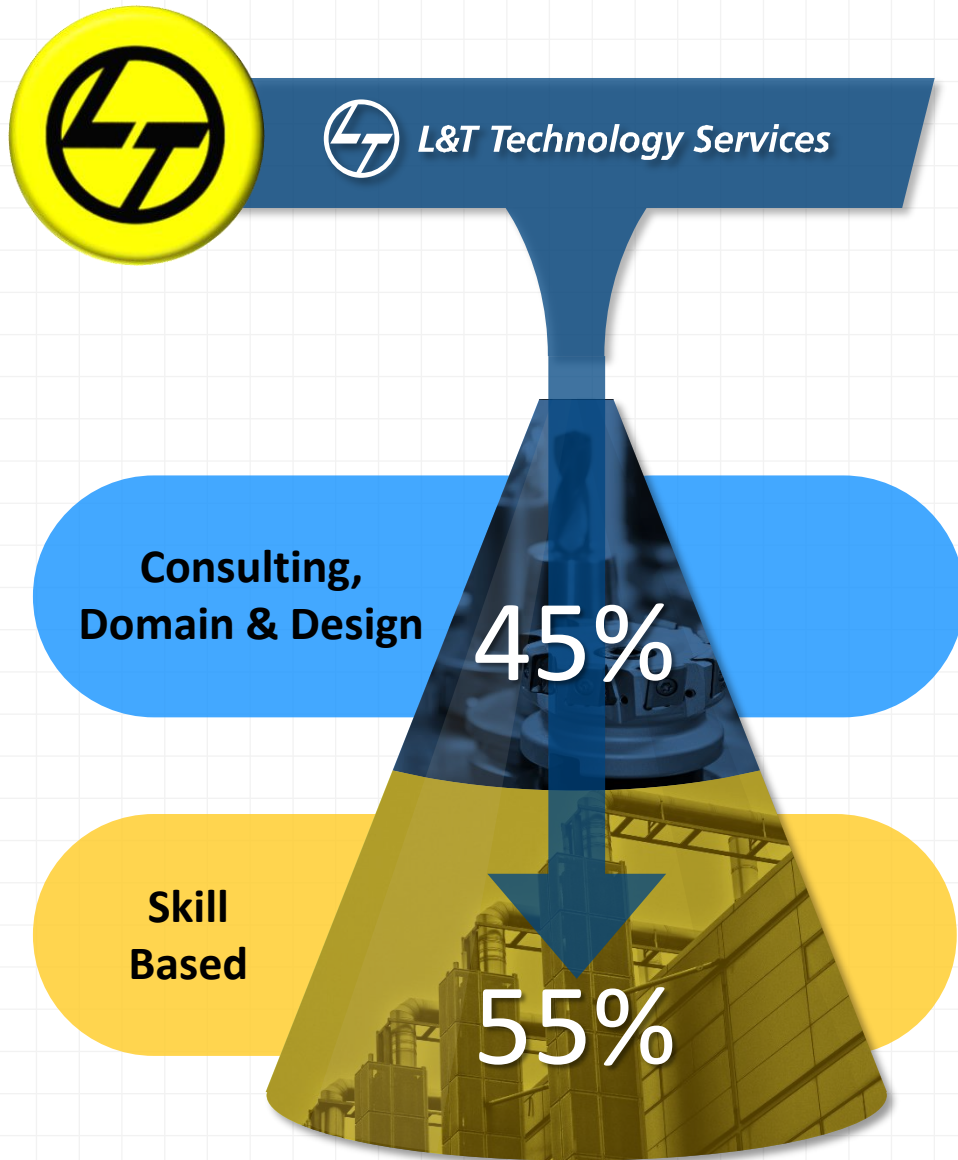
- Manufacturing Support
- Product Engineering Services
- Software Product Development
- Plant Engineering

**\$1062 Billion** Global R&D Spend

**\$85 Billion** Opportunity Addressed

**10 Percent** India Revenue Growth

# Difficult to replicate our differentiation &....

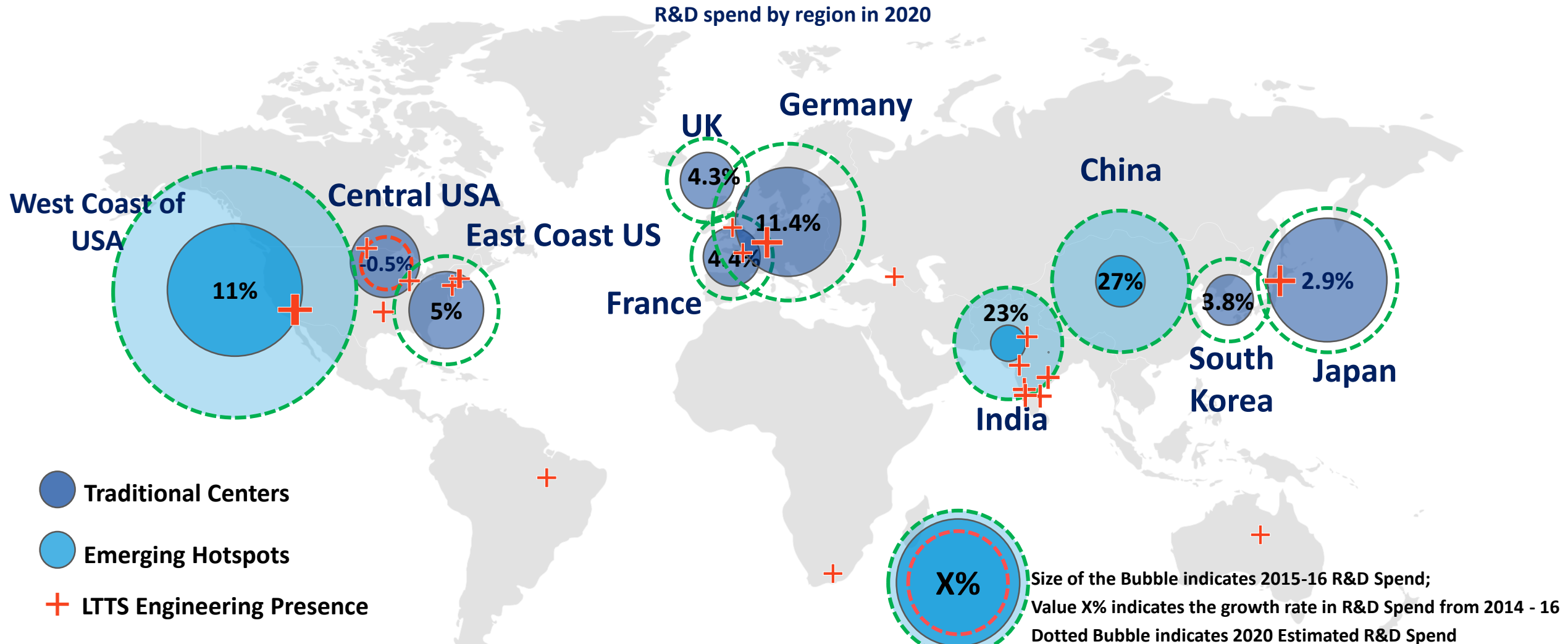


+

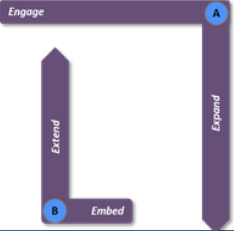


# ...unmatched multi-geo engineering presence

## Bay Area & Germany at the center of Global R&D



# Our Strategy



## Multi-Vertical & Regional Strategy

- 5 Verticals
- L Model
- US, Europe and Japan Markets



## Global Design Centers & New Technologies

- Proximity & near-shore centers
- Specialized centers for POCs, solutions & frameworks
- Connected Product & Services, Smart Mfg & Operations, Perceptual Engg., Pervasive Technologies



## Non Linear Revenues

- Licensed Revenue
- IP Influenced revenue

- iBEMS,
- UBIQWeise,
- GDA – IP
- W.A.G.E.S
- DC DC Convertor
- Stackable Invertor
- NB - IoT



## Top Account Mining & Selective Hunting

- T30 Program
- A3 -Hunting Adjacencies
- Large Deals based on Annuity business model



## Acquisitions

- Selective acquisitions in Product Software & New age technologies which cuts across domains

....supported by best in class infrastructure with in-depth capabilities...



Lighting Lab



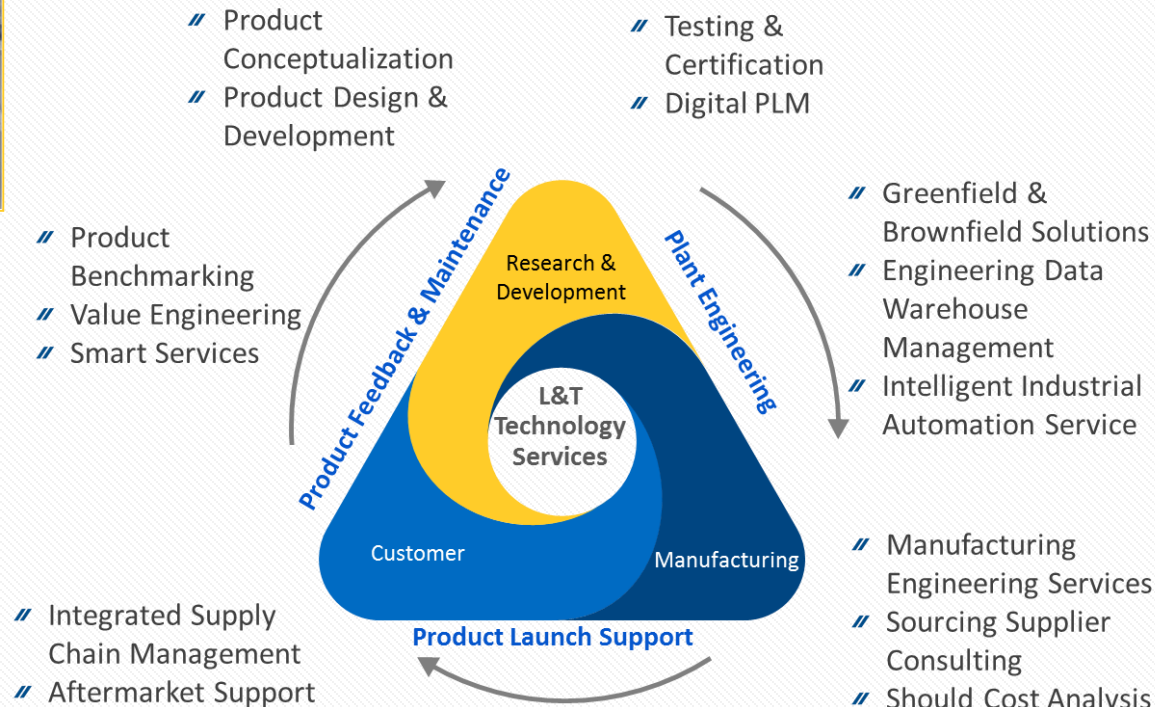
Optics Lab



Medical Lab



Environmental Lab



Injecting Innovation

Improving Quality & Reliability

Optimize Operations

Enter New Markets

# ...we are being acknowledged multiple times by the industry



Excellence in Engineering Services Award



Leadership in IoT  
Product Engineering  
10 Verticals Embedded & Mechanical



Innovation Award



Global Engineering Productivity Improvement Award & Gold Supplier



Winners Circle in HfS' Industry 4.0




"Key vendors in the IoT embedded space"



Innovative use of digital technology



Golden Peacock National Quality Award 2017



IACC  
"Company of the Year" &  
"Green Office Space of the Year"

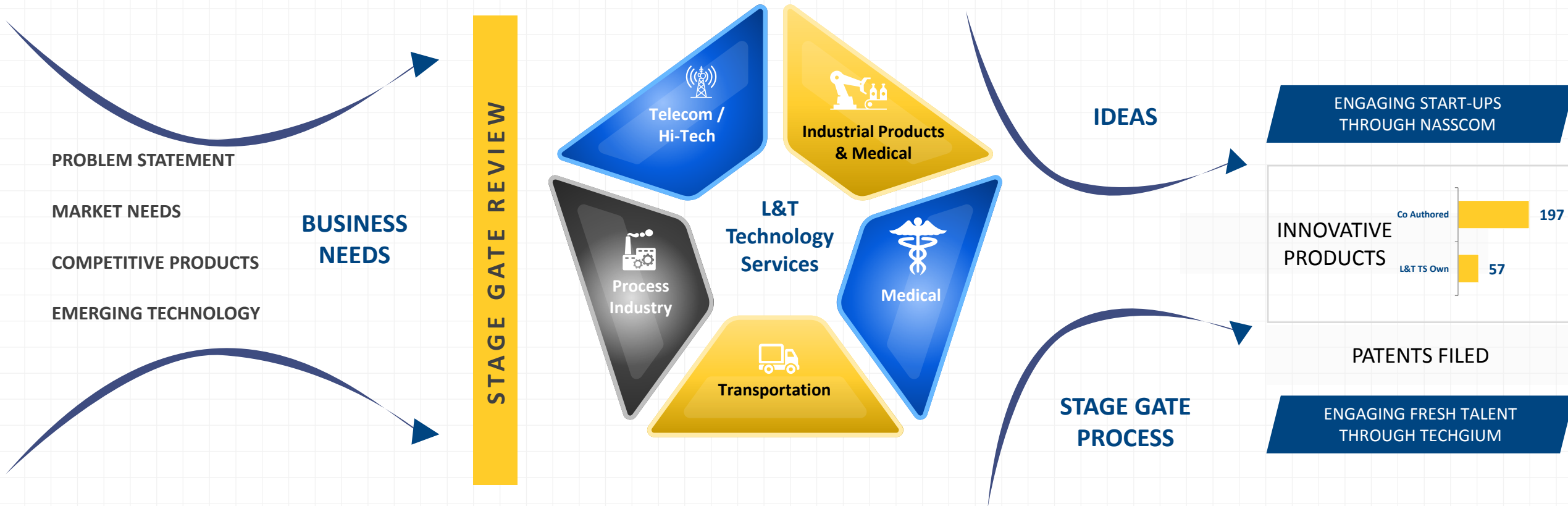


Quality Excellence Award in Product development



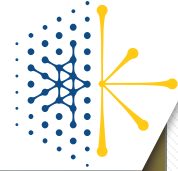
The Golden Globe Tigers Award 2016

# We continue to be focused on driving innovation...



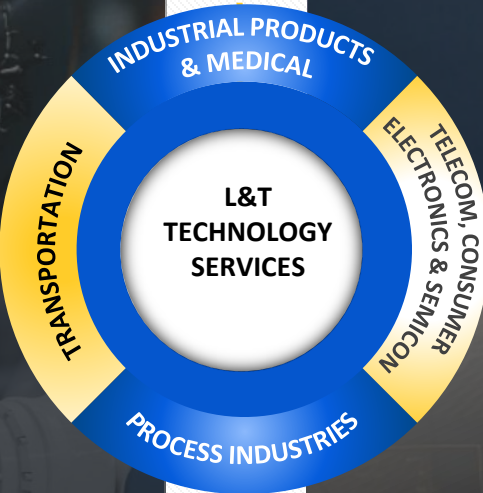
# ...and are investing for the future ... **Infusing Digital in Physical**

## DIGITAL ENGINEERING



### NEXT GEN. SMART PRODUCTS & SERVICES

- Smart Products and Services
- Mobility Solutions
- Mobility
- Virtual Reality
- Augmented Reality
- Enterprise Platforms
- IoT



## PERCEPTUAL ENGINEERING



### ENGINEERING THE "HUMAN EDGE" IN MACHINES

- Machine Learning
- Image Processing
- Voice Processing
- Neural Networks
- Virtual Reality
- Artificial Intelligence
- Sensors
- ADAS
- Chips
- HMI
- Robotics

## SMART MANUFACTURING & OPERATIONS



- Industrie 4.0
- Connected Manufacturing
- Intelligent Automation
- PLM Transformation
- Smart Plants
- Plant control and mobility
- Plant Asset Mgmt
- Supply Chain Technology
- FoF

## PERVASIVE TECHNOLOGY



- Software
- Embedded Applications
- Connectivity
- Semiconductors
- Eco-Green Way ( Net 0)
- Cloud
- Security



# We are also a company with a heart...



**Skill Development  
(Naya Savera)**



**Water Project  
(ENWA)**



**Environment  
Project (ENWA)**



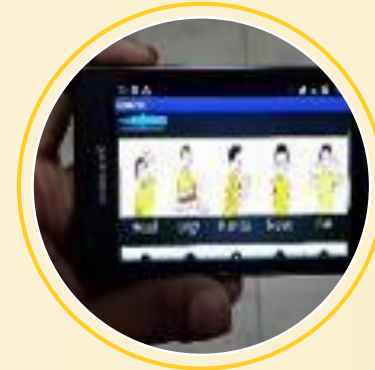
**Education  
(Naya Savera)**



**Health Care  
(Sparsh)**



**Volunteering Activities  
(Samaritans)**



**Innovation & Technology  
(Tech Udan)**

# ...and remain true to our founder's words.

## VISION



- **Top 10** global engineering services companies in the world
- **Top 3** global pure-play engineering services provider



*L&T Technology Services*

## MISSION



- Foster **Customer Delight** through A Creative & Innovative Culture That Establishes **Technology Leadership & Delivery Excellence**, While Enhancing Value For Our Stakeholders

*Machinery must be there, buildings must be there, but without the people, it's all nothing. People are our only real asset.*

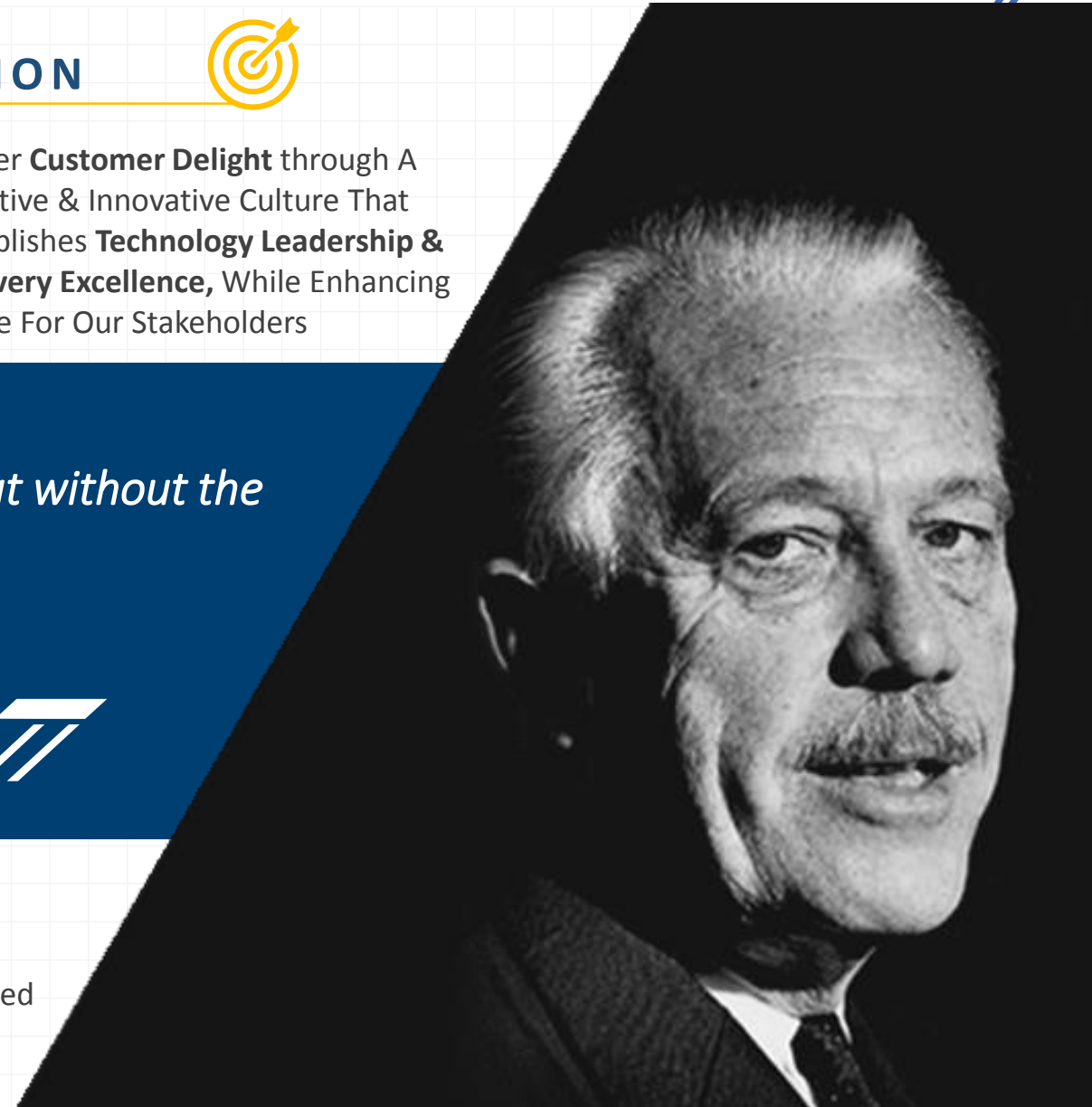
*Mr. Henning Holck-Larsen  
Co-Founder, Larsen & Toubro*



## VALUES



- Be An **Ethical** & Professional Organization With **Respect For Individual** & diversified global talent
- Uphold social harmony, peaceful existence, and inclusive growth





# Profitable Growth



**Amit Chadha**

President – Sales & Business Development and  
Executive Director,  
L&T Technology Services Limited

**ENGINEERING THE CHANGE**

INVESTOR & ANALYST DAY | JULY 28, 2017

# AGENDA

**1**

**TRENDS**

**2**

**OUR GROWTH STRATEGY**

**3**

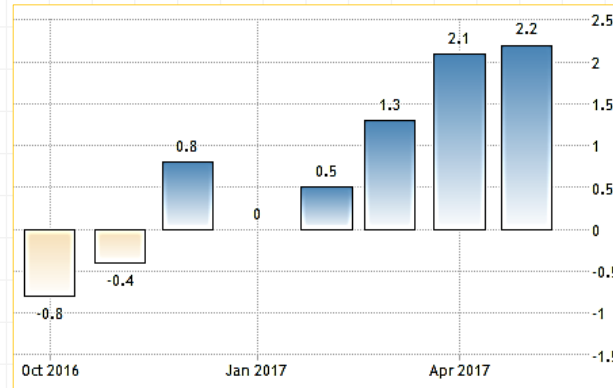
**RESULTS & THE WAY FORWARD**

# Our Worldscope

Global GDP growth is projected to rise at 3.5%



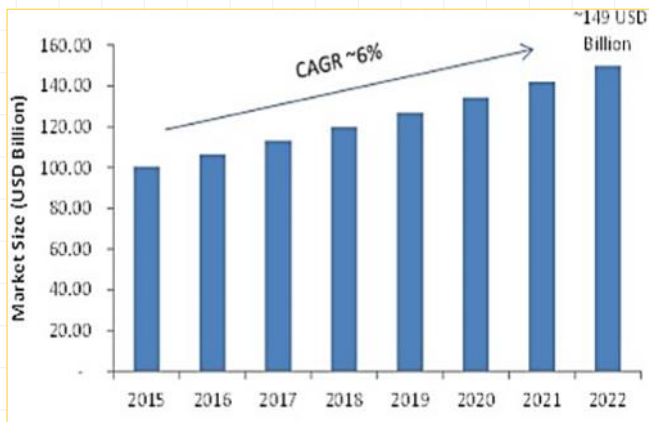
U.S. Production stable: +2.2% year-on-year in May 2017



Europe's automobile industry continues to post healthy rise in vehicle sales, Q1 (+8% YoY)



Industrial Automation market to be worth \$149B and to grow at 6% CAGR by 2022



Semiconductor and sensors for IoT market to reach \$114.2B by 2025



Oil and Gas industry to focus on reducing costs and to go digital



# And what it means to us...



**Semiconductor and Sensors Market is growing exponentially**



**Digitalization is creating a demand in the “Traditional” Industry**



**Auto industry continues To invest in New-Age Technologies**



**Specific Sub-sectors have shown Conservative buying behaviour**



**Immigration & Globalization Backlash may have been Overhyped**

# AGENDA

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**RESULTS & THE WAY FORWARD**

# Our Growth Strategy



**1** Geo-specific Growth Approach



**2** Augmenting Client Relationships



**3** Hunting Adjacencies



**4** Micro Vertical Focus



**5** Improving Digital Quotient & Selling Solutions





# Geo-Specific Growth Approach: North America (1 of 3)

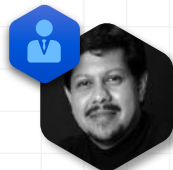
## Transportation



## Telecom & Hi-Tech



## Alliances

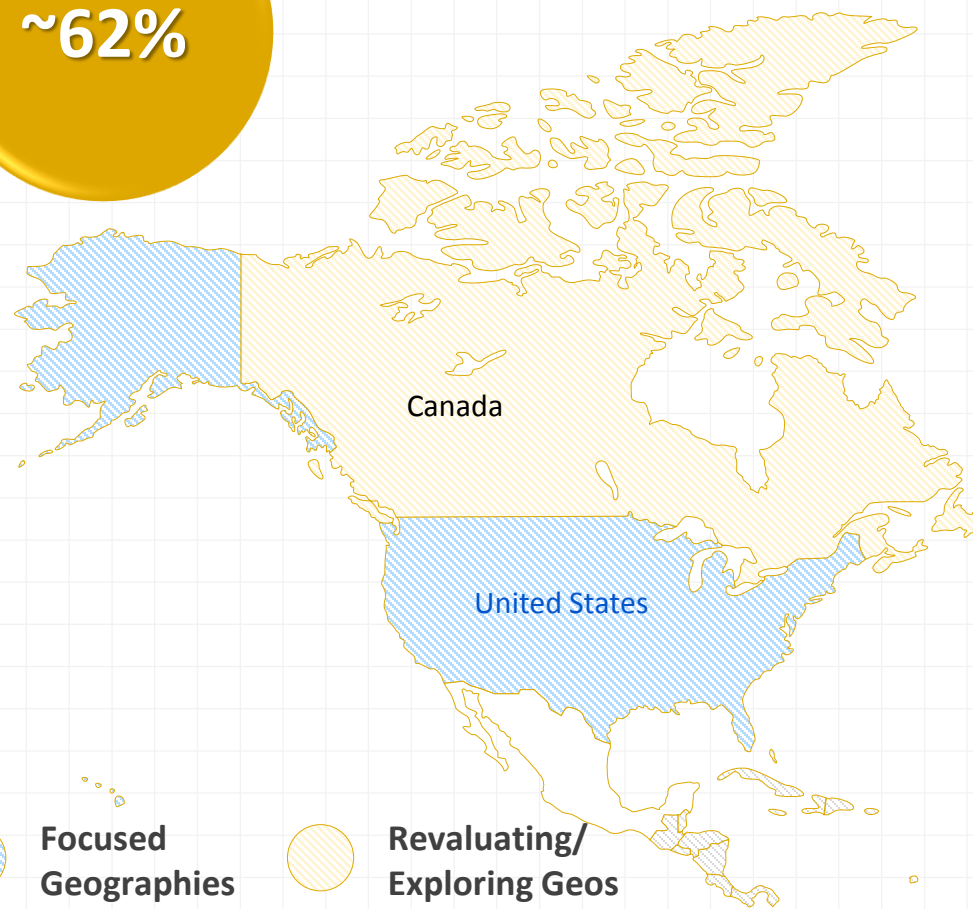


IP + Medical



Process Ind.

~62%



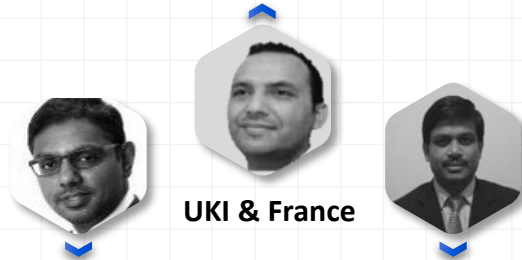
- MATURE MARKET, VERTICALIZED SALES ENGINE
- 7 LOCAL DESIGN CENTERS
- TARGETTED LOCAL TALENT AQUISION
- SMES FOR VERTICALS & DIGITAL ENGINEERING
- 2 SUBSIDIARIES



# Geo-Specific Growth Approach: Europe (2 of 3)

## Product Cluster

Business Head, Europe



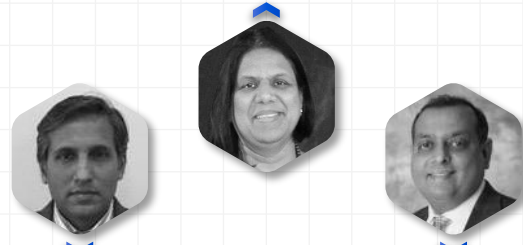
UKI & France

DACH

Nordics & Benelux

## Process Cluster

Business Head, Process, Eurasia



CPG & Chemicals

Oil & Gas

~20%

Nordics & Benelux



EUROPE IS NOT THE UNITED STATES OF EUROPE

BUYING BEHAVIOUR DIFFERENCES: PRODUCT CLUSTER REGIONAL, PROCESS CLUSTER CROSS CONTINENTAL

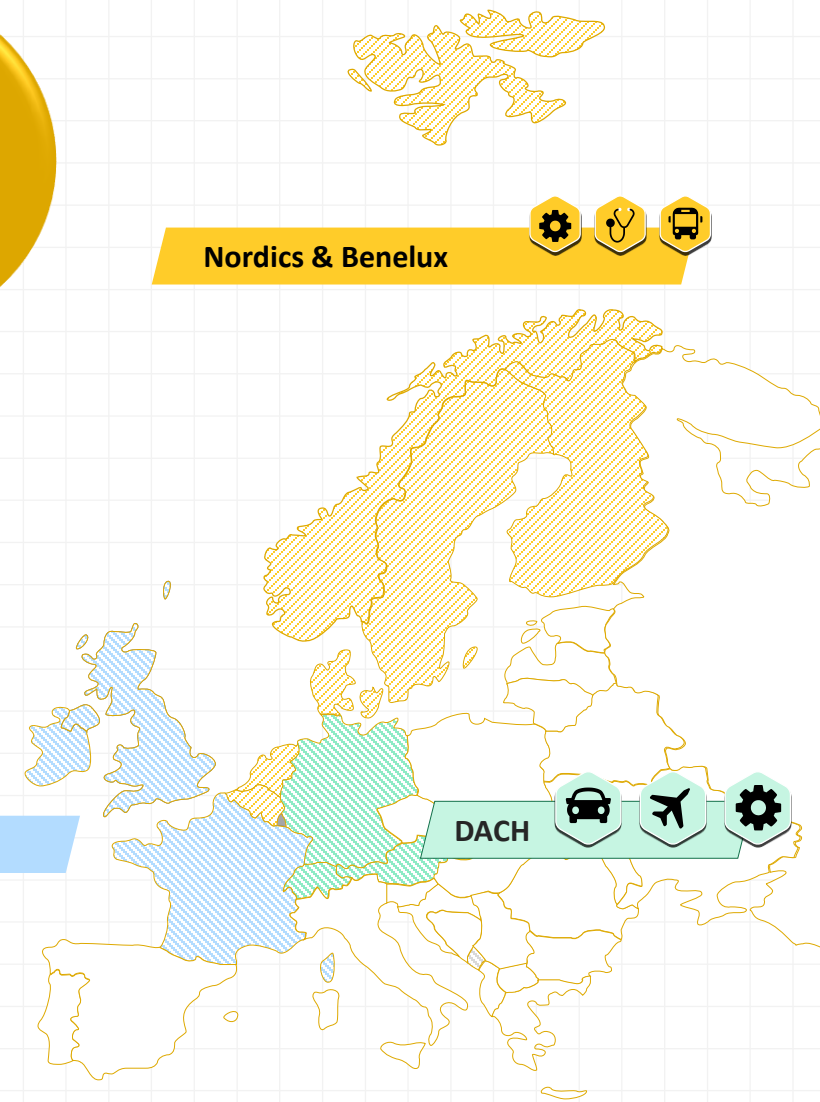
2 LOCAL DESIGN CENTRES (MUNICH & GOTHENBURG)

SMES FOR AUTOMOTIVE, DIGITAL ENGINEERING & PLANT ENGINEERING



UKI, France

DACH





# Geo-Specific Growth Approach : ROW (3 of 3)

ME, India, SE Asia

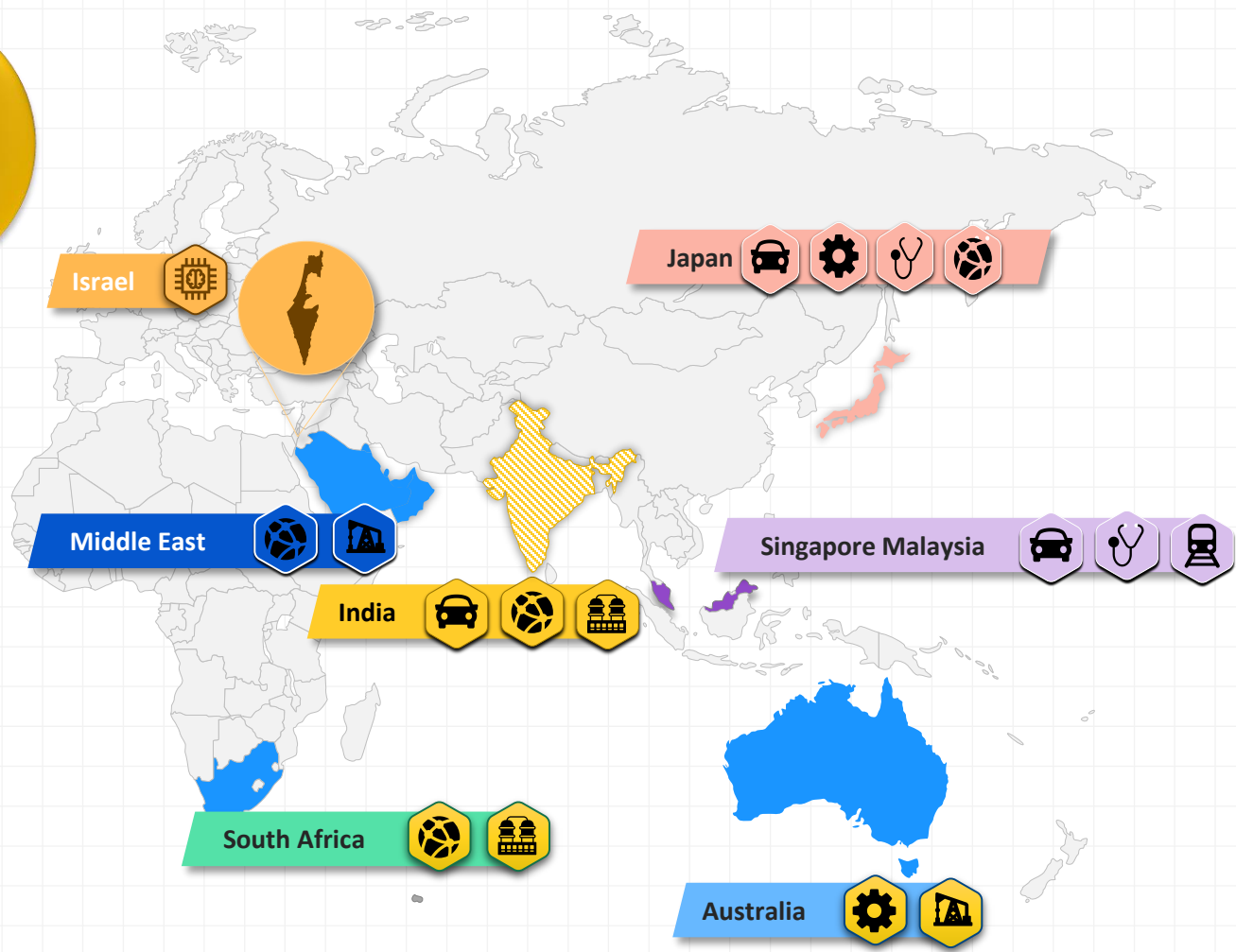


Japan & Korea



Process, Eurasia

~18%



DIFFERENTIATED CAPTIVES STRATEGY IN INDIA

JAPAN: VERTICALIZED SALES ENGINE & SME FOR AUTO

EXPLORING IN SA, AUSTRALIA & SINGAPORE

NEW DESIGN CENTRE IN ISRAEL

REASSESSING TECHNOLOGY MARKETS IN MIDDLE EAST



# Augmenting Client Relationships

## T30 Program

- Accelerate growth with Two in a Box model
- Client specific solutions for accelerated growth

## Annual Ideation & Proactive Deal studio

- Engaging onsite & offshore teams in ideation and large deals with rigorous monthly reviews

## Large Deals & Carve Outs

- Focus on MOLS carve outs and technology consolidation



## Stakeholder Mapping & Geographic Expansion

- Foreman - Chairman mapping and expanding into new geographies

## Continuous assessment of Client Interfacing teams

- The Answer to a \$50M account is not the same as a \$5M account

Average CSAT up at 85.2%





# Hunting Adjacencies

## Key Accounts In New Geographies

Strategy to expand the current engagement in new geographies



### T30-A3

Hunting into Logos that are adjacent to existing Top 30 customers

Existing Customers

Adjacent Logos

LTTS

## Solution Based Reach-out

Driving solutions-oriented Engineering services that are applicable across verticals

UBIQWEISE™



i-BEMS | Intelligent Buildings





# Micro-Vertical Focus (1 of 3)

## Transportation



### AEROSPACE & RAIL

- In flight Entertainment
- Air Traffic Management
- Test Bench Development
- Avionics
- Wire Harnessing
- Signaling
- Real-time monitoring & Predictive Analytics
- Additive Manufacturing



### AUTOMOTIVE

- ADAS/Autonomous Driving
- Infotainment
- Hybrid Cars
- Manufacturing Engineering
- Connected Cars
- Telematics



### OFF HIGHWAY

- Localization
- Manufacturing Engineering
- Value Engineering
- Electronics Systems Development
- Hybrid /Electric Trucks and buses
- Autonomous Driving
- Connected machines

Legend: Bread & Butter | Next-Gen



# Micro-Vertical Focus (2 of 3)

## Industrial Products



### BUILDING & HOME AUTOMATION

- Building Management Solutions
- Energy Efficient Lighting
- Intelligent Mobility Solutions
- Imaging Algorithms



### ELECTRICAL DRIVES & POWER

- Power Electronics
- Sustenance Engineering
- Real-time Monitoring & Analytics
- Energy efficient product development



### MACHINERY

- IoT
- Cost takeout Programs
- Machine Learning
- Value Engineering
- Artificial Intelligence
- Machine Vision
- Digital Twin

## Medical Devices & Healthcare



### DIAGNOSTICS

- Diagnostics Imaging
- Manufacturing optimization
- Data Analytics and Security
- Wearable's diagnostic applications



### PATIENT CARE

- Cost Optimization Programs
- Engineering Analysis(CAE)
- Real-time Connectivity and Integration
- Intelligent Patient Care



### SURGICAL

- Product Design and Development
- Risk Management and Compliance
- Value Engineering
- Robotics
- Reusable surgical solutions

Legend: Bread & Butter | Next-Gen



# Micro-Vertical Focus (3 of 3)

## Telecom and Hi-Tech

## Process Industry



### SEMICONDUCTOR

- ASIC/SOC Design and Development
- Custom Engineering
- V&V
- Sensors/MEMS
- IoT Chipsets Development & Testing



### MEDIA & ENTERTAINMENT

- STB Middleware Design & Development
- Cloud based Video
- Testing
- Dev-Ops
- Next-Gen Media Streaming



### CONSUMER ELECTRONICS

- Middleware development, Integration and Testing
- Application development and Testing
- Smart Homes & Security
- AR/VR Technology



### TELECOM & ISV

- SDN/NFV and Network Management
- Product Design and Sustenance
- Software Development and Testing
- 5G Core and RAN Network
- Virtualization and Network Security
- Dev-Ops



### CPG

- Sustenance Engineering
- Brown field Development
- Plant Controls Mobility Solutions
- Integrated Manufacturing and Supply Chain



### SPECIALITY CHEMICALS

- Green Field Development
- Sustenance Engineering
- Intelligent Industrial Automation
- Energy Audit & Energy Management Services



### OIL & GAS

- Asset Management Solutions
- Discipline Engineering
- Digital Engineering
- Data Analytics and Interpretation

Legend: Bread & Butter | Next-Gen



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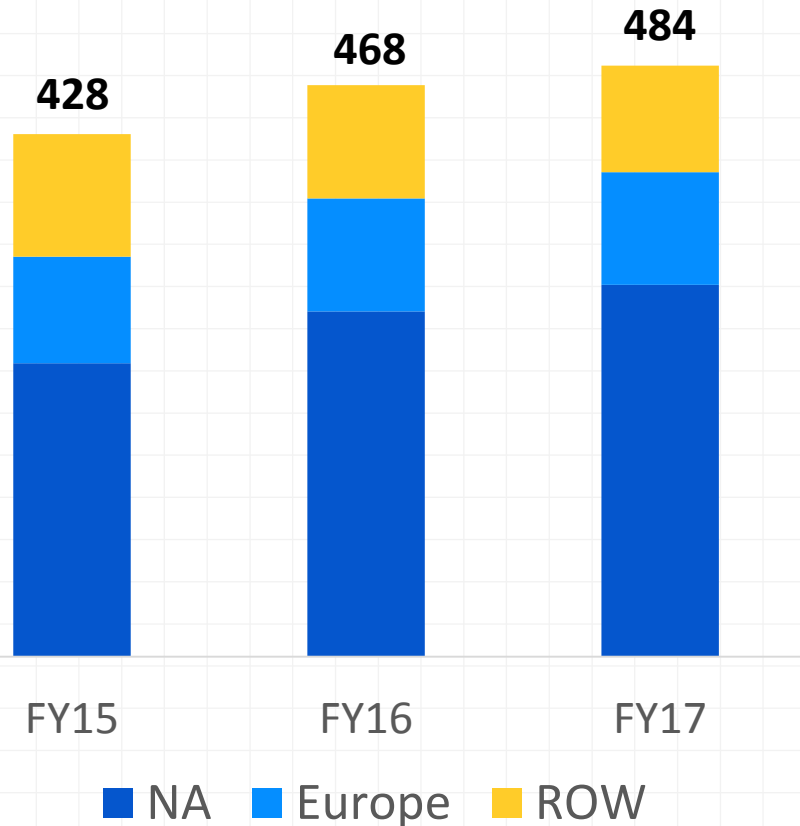
# Results: Annual

All numbers in US\$ M

## REVENUE

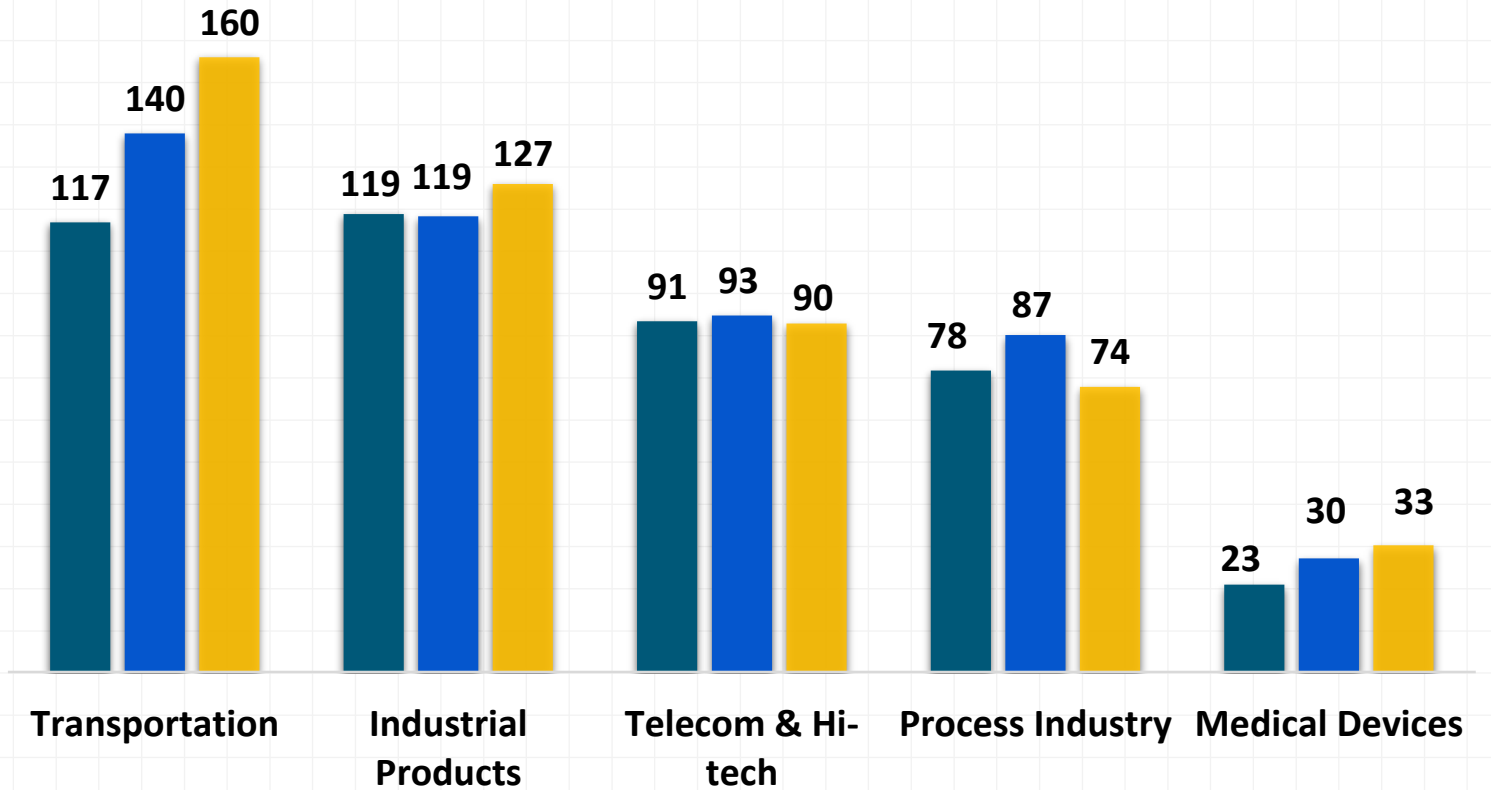
FY16 3 yr. CAGR - US\$: 15.7%

FY17 4 yr. CAGR - US\$: 12.5%



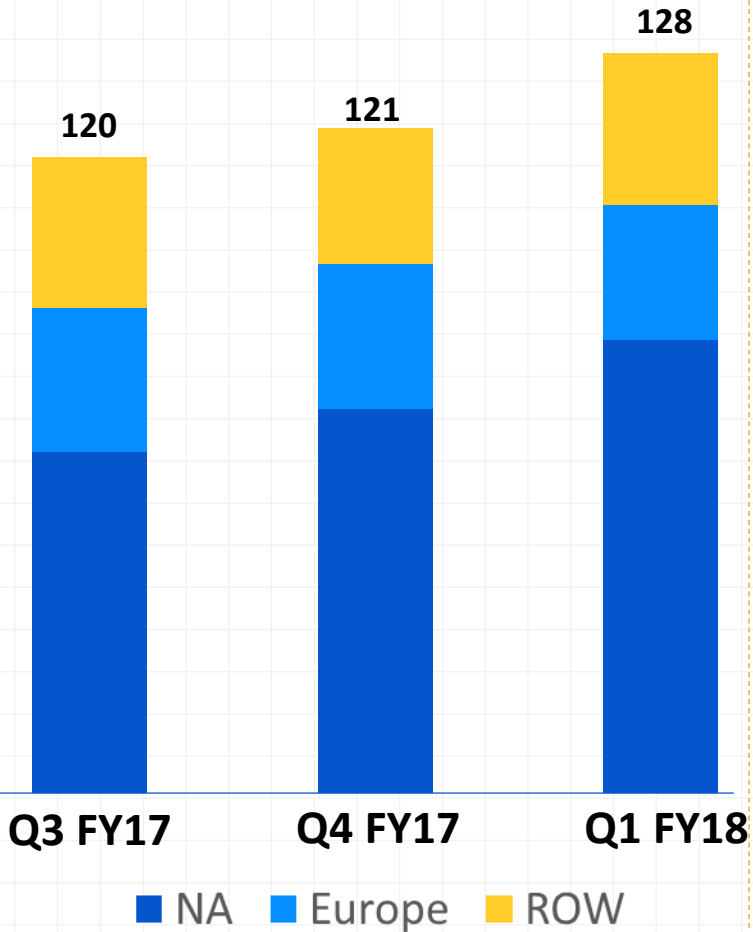
## VERTICAL WISE REVENUE

FY15 FY16 FY17

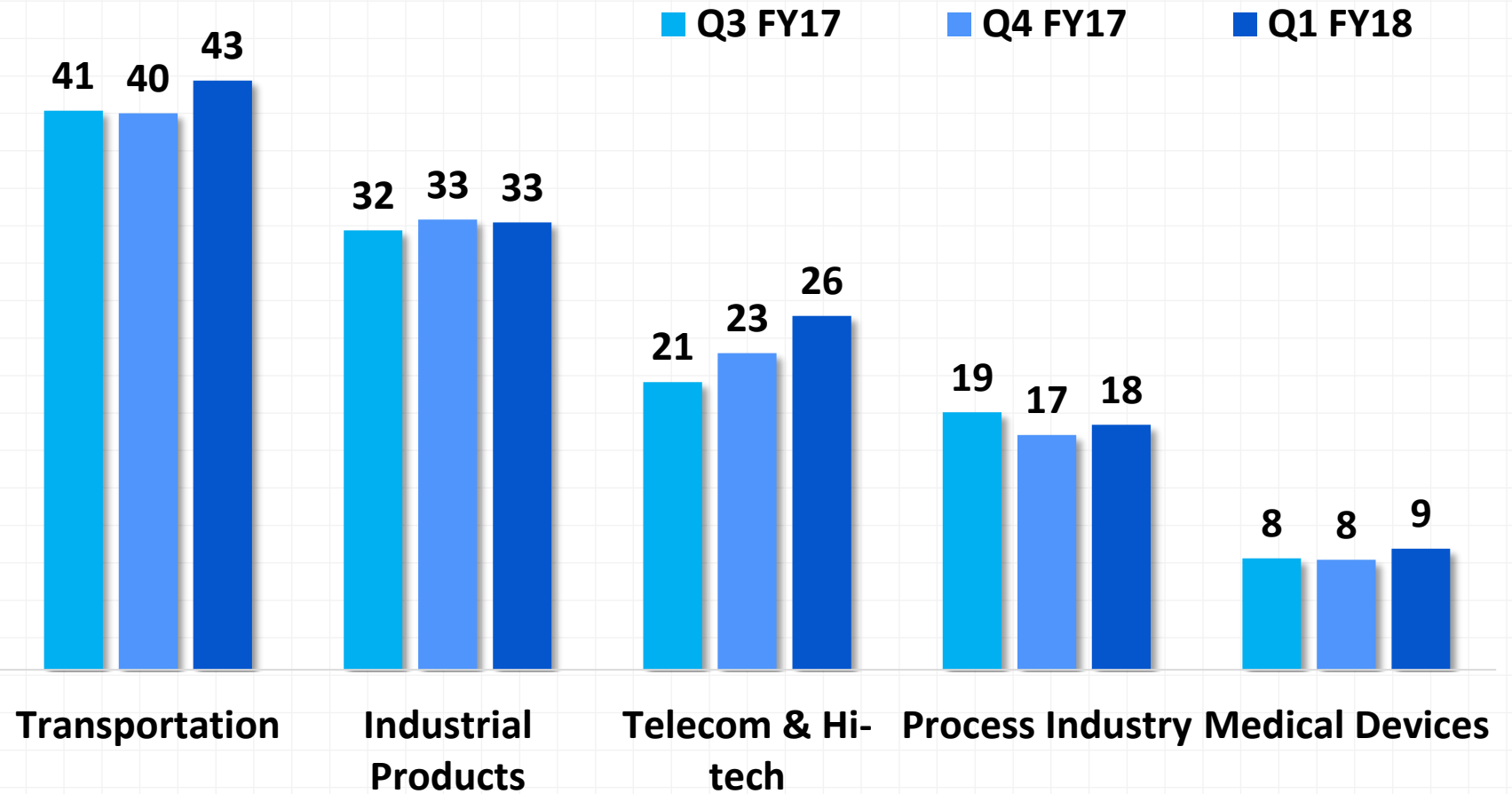


# Quarterly Results: Growth is back

## REVENUE





## VERTICAL WISE REVENUE




# Key Wins


## NORTH AMERICA

 US-based technology leader to maintain the Vantage middleware stack for Cable MSO customers.


 Multi-year contract consolidating relationship with a leading global semiconductor company

 Expand Services for Global Auto maker at our centre of excellence in Dublin, Ohio.


 Multi-year contract to provide digital engineering for a major oilfield services company.


 Multi-year contract with a large global manufacturer of motion and control technologies.


 Advanced development and testing for the core R&D of one of the world's leading global diversified industrial products conglomerate.


 Major Contract with a leading medical devices company for its range of Surgical products and medical devices.

## EUROPE


 Contract for its infotainment systems testing, functional integration and testing and system validation from one of the worlds leading Auto OEM


 A Leading European OEM has chosen LTTS for design, development, implementation and standardization of digital engineering framework across all its major business units.

 Secured a multi-year engagement in Middleware application development for a global telecom player. LTTS has set up an ODC for middleware development to address their end customer projects.

 LTTS is offering design verification, specification support, engineering surveillance and information management services to one of the world's largest process companies in a multi-year


## ROW

 Multi-million dollar smart campus deal in Israel jointly with Microsoft to develop the world's smartest office for a leading US tech conglomerate.

 LTTS augmented its relationship with a leading global automotive major for R&D Outsourcing, Product Development and Sustenance Engineering

# Our clientele continues to be our prized asset...





MOST BUSINESSES HAVE  
GEARS THEY DON'T USE  
TO WIN.

WE DO.

Thank You



# Capitalizing on Technology Trends



L&T Technology Services

**Bhupendra Bhate**  
Chief Digital Officer



Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec



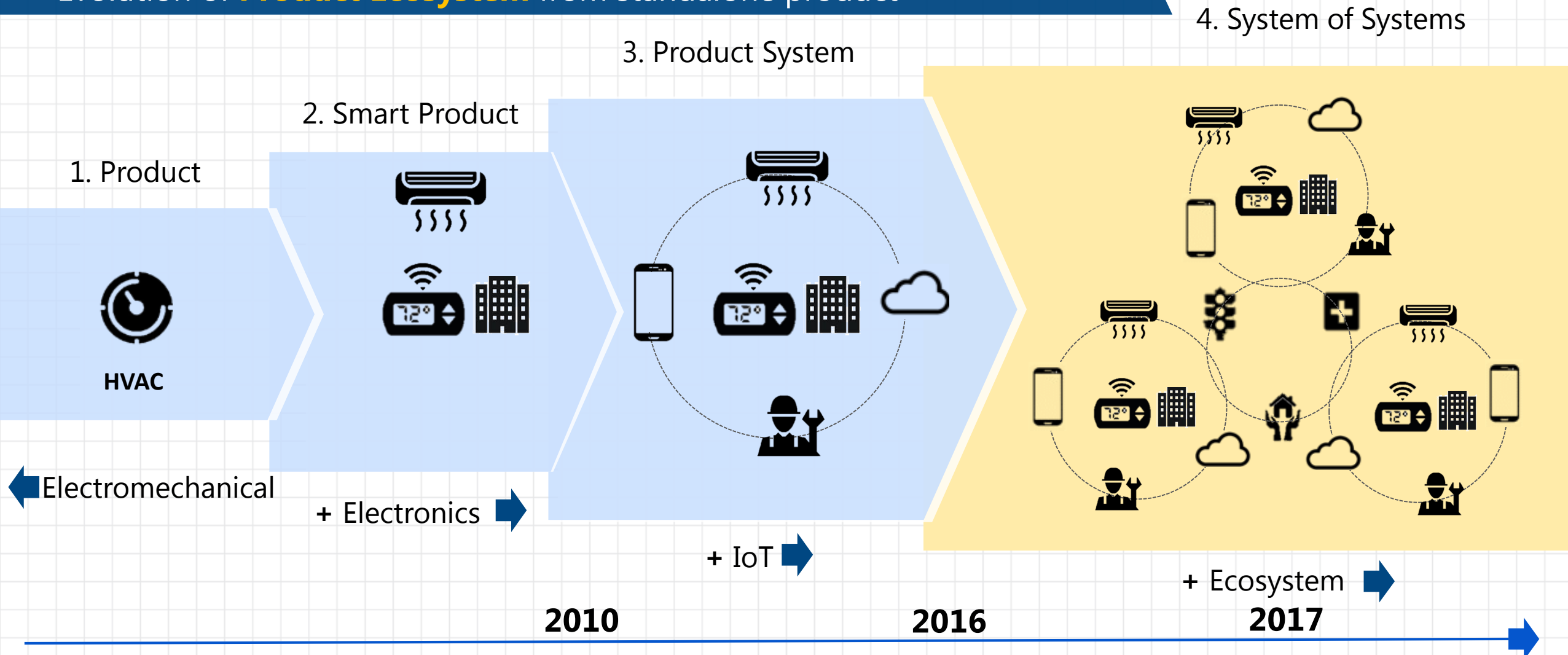
**WE HAVE ENTERED AN ERA OF  
TECHNOLOGY CONFLUENCE DRIVEN  
PRODUCT ECOSYSTEM WHICH UNLOCKS  
NEW GROWTH AVENUES**





# Practitioner's view on Product to Product Ecosystem

Evolution of **Product Ecosystem** from standalone product



Source : Adapted from HBR

**Tectonic shift to Product Ecosystem extends the boundary of Engineering**

# What goes behind Product Design?

Complex product design has been LTTS's traditional strength...

## TRANSPORTATION



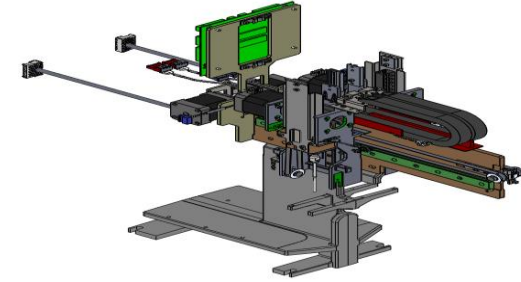
Passive Occupant Detection System for Passenger Safety

## AERO



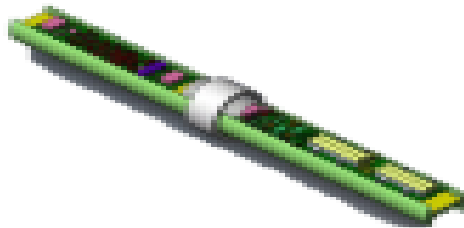
Flight Control Computer to control Unmanned Aerial Vehicle

## MEDICAL



Cost Reduction of Pipettor Gantry Assembly by 25+%

## INDUSTRIAL PRODUCTS



4.5 KW High Power Amplifier Acoustic Downhole Transmitter

## TELECOM



Ruggedized Tablet for Extremely Harsh Conditions, Mission Critical

## PLANT ENGINEERING



Barrier Free, IGBC Green Certified Manufacturing Plant Design

...now we are transitioning to product ecosystem design

# Innovation – a Key Ingredient to Product Differentiator

## Gyro Screw Driver



World's first Motion activated screwdriver

## Piezo based Iron



Auto Steaming using Piezo actuator

## Power Supply for Nuclear Plant Control System



1.5 KW, 24x7, 25 Yrs., Withstand 3 axis vibrations up to 7G

## Vibration Compensator for Marine



Unique Electro-Pneumatic design, Eliminates unwanted vibrations



Cross Poll!novation™

Exploring the fundamentals

Challenging the limits...

Revisiting the rules...

## Power Transformer Monitoring Unit



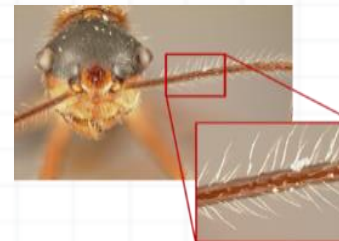
Cellular (4G LTE) & Wi-Fi Connectivity Enabled

## Hair Straightener



Heaters using Nano Coated Thin Film

## Extended Depth of Field for Microscopy



Advanced Image Processing Algorithm

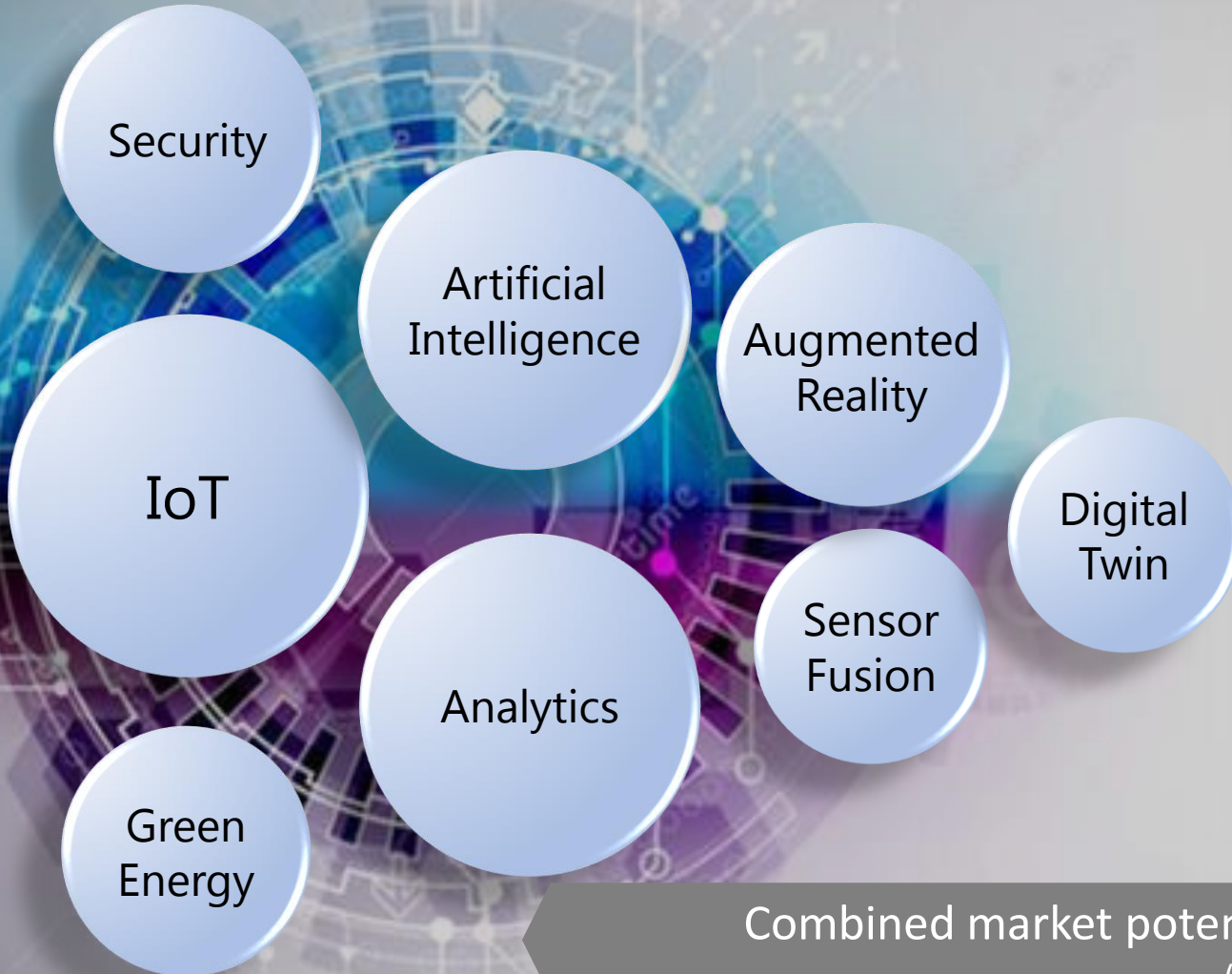
## Induction Mixer Grinder



First dual zone induction coil technology extended to mixers

# Key Technologies behind Product Ecosystem

... shaping Industry Trends



## Industry Trends



Own Services instead of Assets

OPEX instead of CAPEX



Reduce Carbon Footprint

Automation to its Ultimate



Combined market potential to reach **\$800 Billion** by year **2022**

(Source: MarketsandMarkets)

**Technologies & Trends have always co-evolved!!!**

# Strategy to Monetize the Trends

## ADDRESSING TRENDS THROUGH SPECIALIZED OFFERINGS



## FOCUSING ON SOLUTIONS





# ADDRESSING TRENDS THROUGH SPECIALIZED OFFERINGS



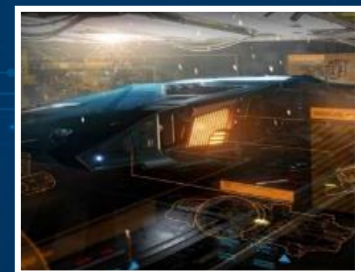
CONNECTED PRODUCTS  
& SERVICES



SMART MANUFACTURING  
& OPERATIONS



PERCEPTUAL  
ENGINEERING



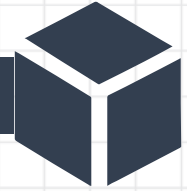
PERVASIVE  
TECHNOLOGIES

# Connected Products & Services



**CONNECTED PRODUCTS & SERVICES**

## CONNECTED PRODUCTS



Autonomous

Servitization / PaaS

EDGE Analytics

Digital Twin

## CONNECTED SERVICES



Augmented Reality / Visualization

Remote Monitoring & Control

Predictive Maintenance & Analytics

Connected Support Ecosystem

Smart Field Assist

# Augmented Guiding for Remote Auto Servicing



## CASE STUDY FOR CONNECTED SERVICES

### Augmented Guiding for Remote Auto Servicing:

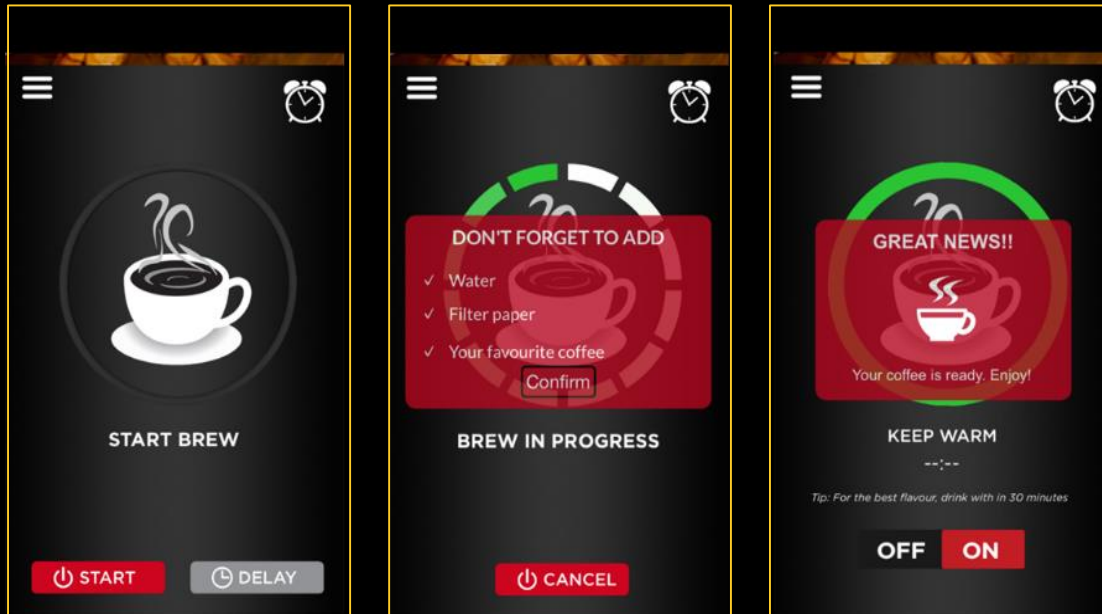
- Intuitive & Intelligent service assistance
- Online access to Service manual, Drawings
- Auto Health Monitoring
- Remote Supervisory Assist

### Market Drivers:

- Monitor the health of spare parts in the vehicle
- Assistance in performing regular maintenance
- Spare parts management



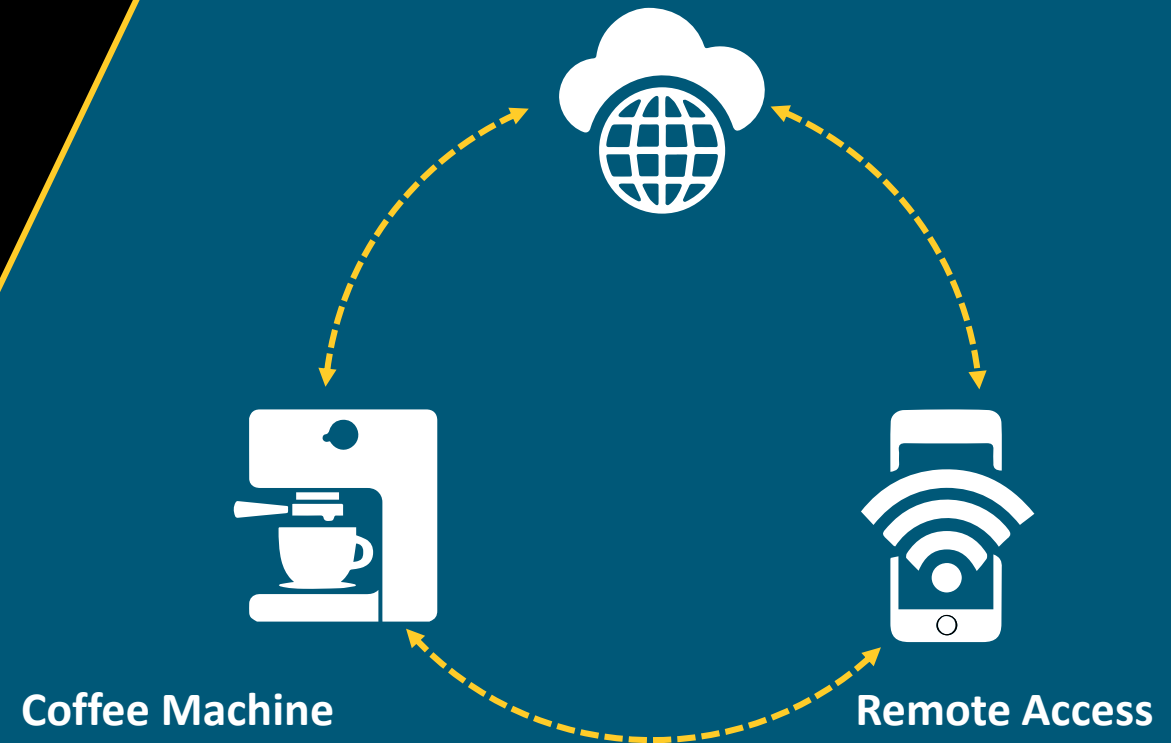
# Connected Coffee Maker



Recipes can be taken from cloud and accordingly the Coffee Maker can be programmed for **different geographies depending on local taste.**

## CASE STUDY FOR CONNECTED PRODUCTS

### Cloud Connectivity



# Smart Manufacturing & Operations



**SMART MANUFACTURING & OPERATIONS**

## INDUSTRIE 4.0



Connected Machines/ Systems

## SMART FACTORY



Remote Monitoring

## Industrial IoT



Smart Logistics

## DIGITAL MANUFACTURING



Smart Warehouse

# Remote Asset Performance Management

## CASE STUDY FOR SMART OPERATIONS

The key challenge in asset intensive industries is to manage field assets and equipment more effectively.

We created a **Remote Asset Performance Management Solution for a Construction Major** which:

- Intends to cover 30 thousand assets across 500 asset types
- Expected 12% improvement in asset utilization
- Reduced costs as on-time asset availability improve
- Uses our home grown **UBIQWeise™** platform



# Equipment Monitoring & Effectiveness



## CASE STUDY FOR SMART MANUFACTURING

Client requirement was to connect critical 25 years old machines in manufacturing plant for remote monitoring of Overall Equipment Effectiveness (OEE).

We developed a solution where **Multiple machines in a plant and multiple plants at different locations have been retrofitted with sensors and connectivity.**

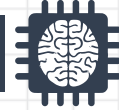
- Developed Software to analyze, monitor and measure OEE parameters.
- Provides Predictive Maintenance and Energy Conservation.
- Measures the effectiveness and efficiency of manufacturing process.

# Perceptual Engineering - Enabling the "HUMAN EDGE" in Machines



PERCEPTUAL ENGINEERING

## ARTIFICIAL INTELLIGENCE



Cognitive Learning

Situational / Contextual Awareness

Analytics

## ROBOTICS



Sensor Fusion

Mechatronics

Collaborative Robots

# AI in Welding Machine



## CASE STUDY FOR ARTIFICIAL INTELLIGENCE

Developed a welding machine that learns the machine usage patterns using a AI Algorithm and creates a library of different users as per their skills.

Provides **REAL TIME WELD SCORE** and **SUGGESTS TRAINING** to welders based on their weld score.

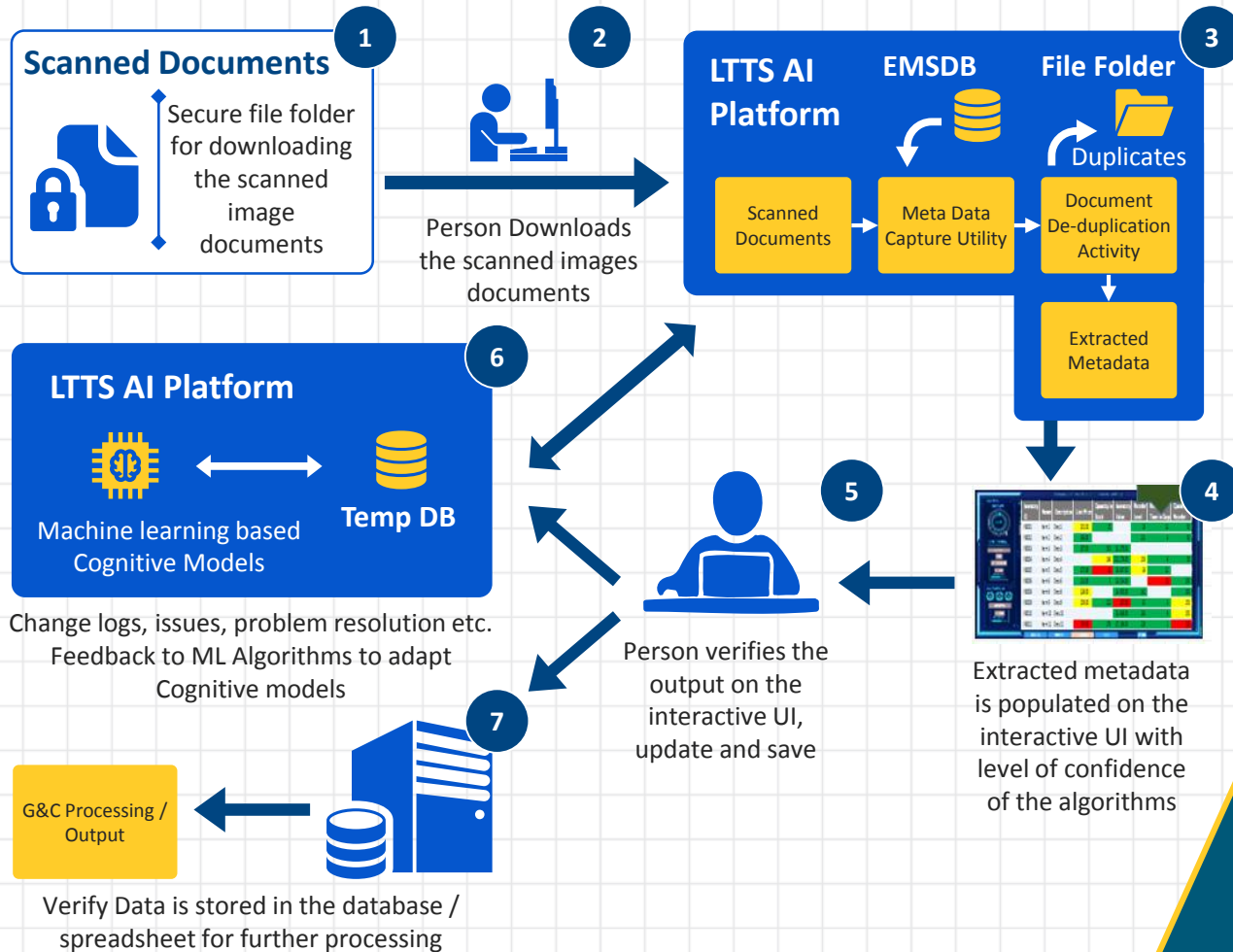
Weld Score is provided after every weld session which rates that weld on terms of uniformity, quality, strength of the weld.

# AI based Document Search and Query Engine

## CASE STUDY FOR ARTIFICIAL INTELLIGENCE

We created NLP based Search Application for NA based Engineering Major which brings information and insights to the users who need it fast with minimum efforts.

- Includes Global Engineering Practices that address design, fabrication, inspection, testing, and operational requirements that are accessed by their various stakeholders globally.
- Complete data is indexed in Unified View



# Pervasive Technologies - Seamlessly Linked Eco-Green World



**PERVASIVE TECHNOLOGIES**



Net Zero



Renewable/Green Energy



Electric Vehicles



Energy Efficient Lighting

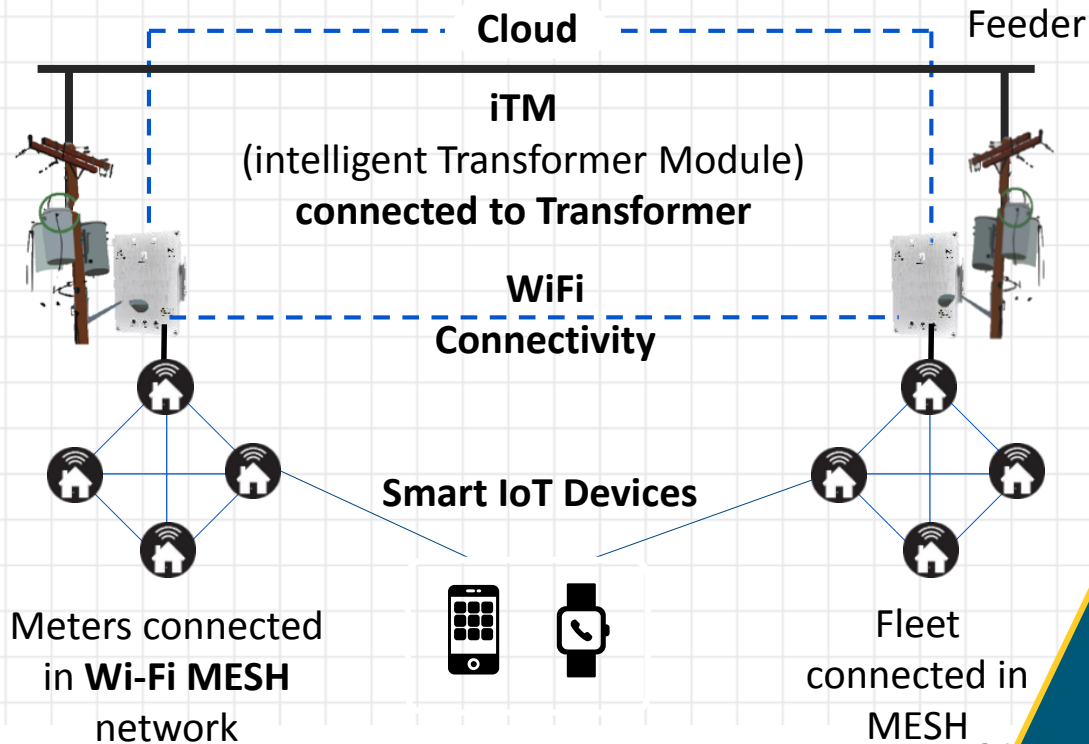
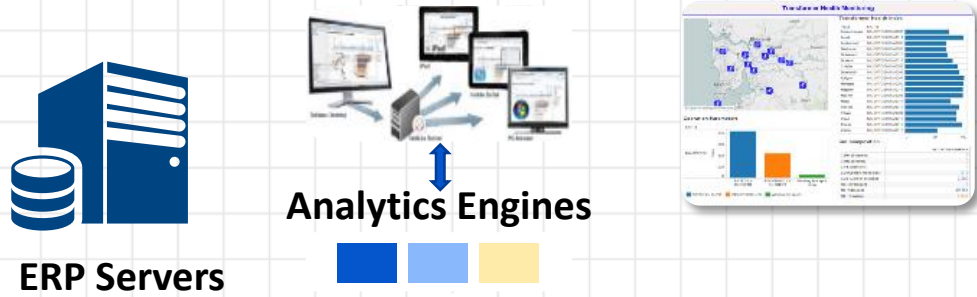


Mesh Technology



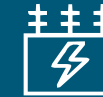
# Smart City Energy Solution for Utilities

We created a complete end-to-end solution for **US based Utility Major** to monitor energy distribution performance at all levels.



## CASE STUDY FOR MESH TECH.

### HARDWARE SOLUTION



Connected to Meter and Transformer Junction Box

- Transformer health monitoring by capturing critical transformer data like oil and coil temperatures, moisture levels, loading etc.

### NETWORK SOLUTION



Data Transmission over Wi-Fi

- Proprietary Mesh Topology
- Uploading voluminous on cloud.
- Scalable network for multimillion end points

### SOFTWARE SOLUTION



Remote Monitoring Application

- Fault & Theft Management
- Demand & Outage Management
- Energy Meter Device Management
- Billing Generation

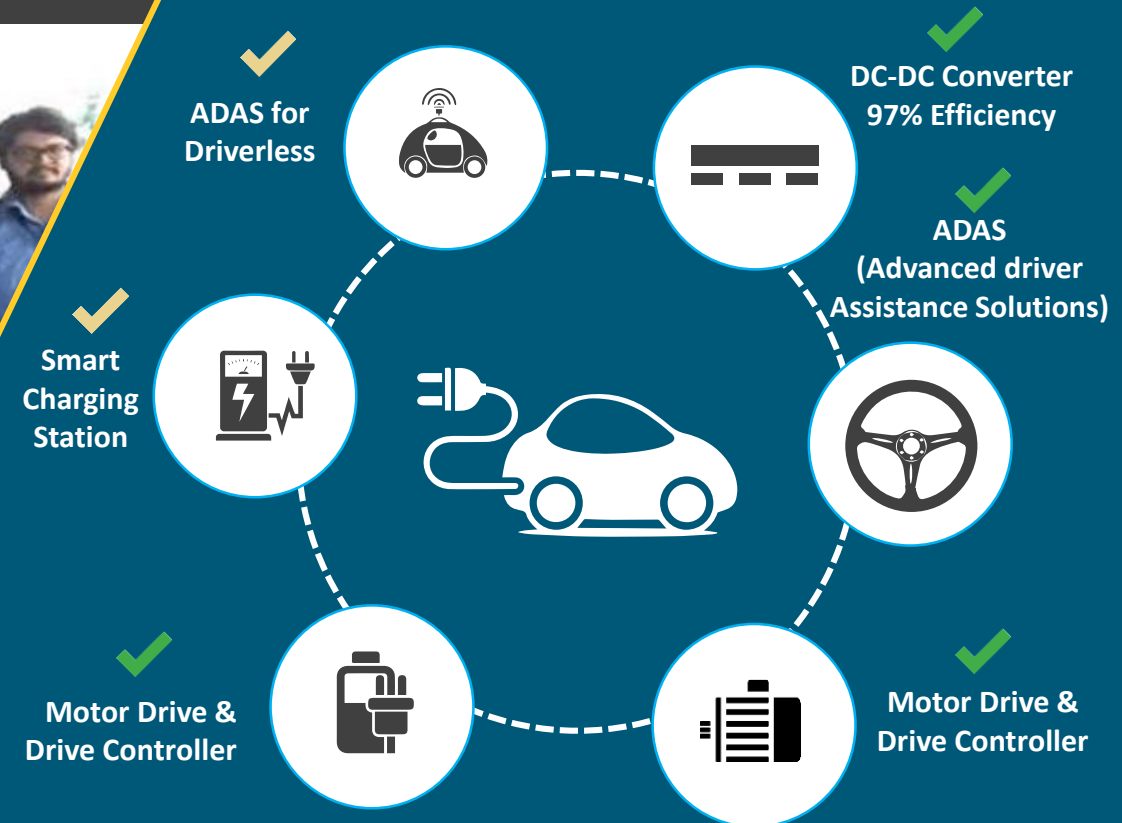
# Electric Vehicles Eco System

- CHARGING INFRASTRUCTURE
- POWER ELECTRONICS



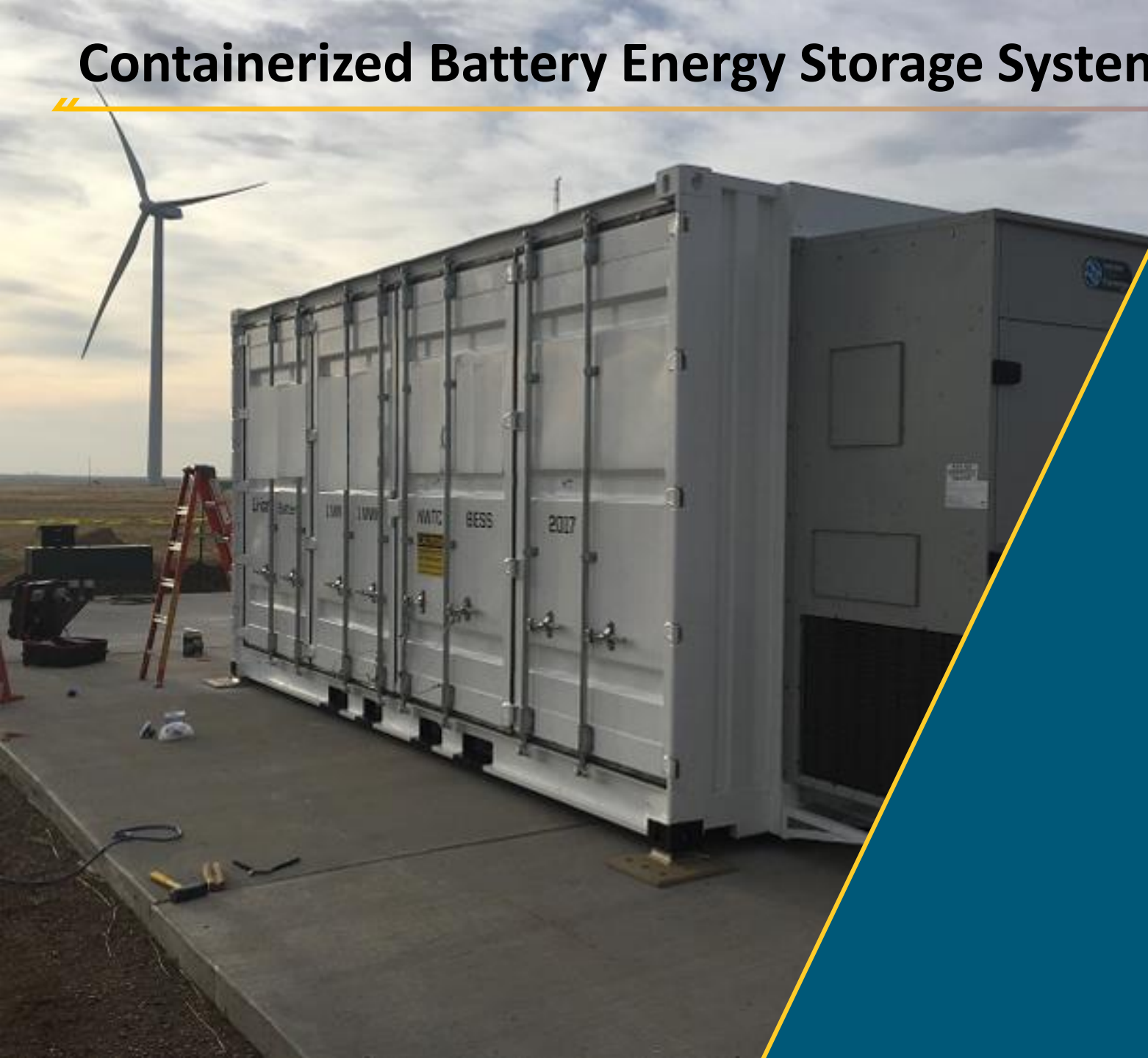
- IMAGE PROCESSING
- EV DESIGNED & DEVELOPED BY LTTS

## CASE STUDY FOR MESH TECH.



- The current Prototype gives 100 miles drive on one single charge
- Next phase target is 300 miles in one single charge
- ADAS is now being integrated for driverless car prototype

# Containerized Battery Energy Storage System



## CASE STUDY FOR RENEWABLE

CBESS is one of the best options for Grid Power Storage, Wind/Solar Farm Renewable Energy Integration and Remote Micro Grids.

- Ensures continuous power and reliability
- Makes energy available wherever & whenever
- Uses High Performance DC –DC Solution

## BENEFITS OF BESS



Reduce High generation cost during peak demand periods



Maximize Utilization of excess Solar/Wind Power



Reduce Network Costs



Supplementary Power Source during Power Cuts



Low Cost, Pollution Free Energy Source



# FOCUSING ON SOLUTIONS



SOLUTION FRAMEWORK



START-UP AND ALLIANCES



IP CREATION / MONETIZATION

# Solution Frameworks



Intelligent Building Energy Management System

- System of Systems
- Modular & Customizable System
- Advanced Analytics

i-BEMS PLATFORM HAS BEEN DEPLOYED IN WORLD'S SMARTEST CAMPUS IN ISRAEL

## UBIQWeise™

IoT Platform

- Device Health Monitoring
- Predictive Analytics
- Data Aggregation

DEPLOYED SUCCESSFULLY FOR HVAC AND CONSTRUCTION MAJOR

## WAGES

Water, Air, Gas, Energy, Steam

- Monitoring Plant KPI
- Energy Monitoring & Metering
- Water Recycling & Reuse Engineering

SUCCESSFULLY USED FOR FMCG MAJOR

# IP Creation/Monetization

## Leveraging Existing Capabilities

197

Co-Authored Patents

57

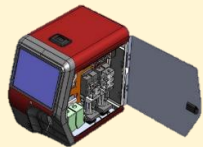
Own Patents (52 Unique)

### Transportation



Cross PollInnovation™

### Medical Devices



Challenging the Limits

### Telecom



Exploring the Fundamentals

### Industrial Products



Revisiting the Rules

### Process Industry



Pushing the Horizons

## IP Monetization Plan

Patent  
Monetization  
Opportunity  
Exploration

Patent  
Shortlisting

Potential Buyer  
Identification &  
Negotiation,  
Signing &  
Closure

Phase  
1

Phase  
2

Phase  
3

Sr. No.	Patents Shortlisted for Monetization
1	<ul style="list-style-type: none"> <li>CO<sub>2</sub> concentration in building using Camera</li> </ul>
2 & 3	<ul style="list-style-type: none"> <li>A Method and System for Automated Light Intensity Testing of BMS</li> <li>A Method and System for Flicker Testing of Loads Controlled by BMS</li> </ul>
4	<ul style="list-style-type: none"> <li>Hydraulic hybrid for off-highway machine</li> </ul>

THE ERA OF A SYSTEM OF SYSTEMS HAS JUST BEGUN.

WE ARE SEEING INCREASING TRACTION, STARTING WITH PILOTS ON PRODUCT ECOSYSTEM.

**AS AN ENGINEERING SERVICE PROVIDER WITH EXTENSIVE TRACK RECORD IN INNOVATION, WE ARE WELL PLACED TO CAPITALIZE ON THIS TREND.**

THANK YOU!

# FINANCIAL HIGHLIGHTS



**P Ramakrishnan**

Chief Financial Officer

L&T Technology Services Limited

**ENGINEERING THE CHANGE**

INVESTOR & ANALYST DAY | JULY 28, 2017



# Performance Highlights – Consolidated

<b>FY15</b>	<b>FY16</b>	<b>FY17</b>	<b>Parameters</b>	<b>Q1 FY18</b>
<b>Actual</b>	<b>Actual</b>	<b>Actual</b>		<b>Actual</b>
428	468	484	Revenue from Operations (USD Mn)	128
26,186	30,662	32,483	Revenue from Operations (Rs. Mn)	8,226
252	845	591	Other Income (Rs. Mn)	262
15.2%	16.9%	18.0%	EBITDA Margin	15.3%
13.4%	15.0%	16.1%	EBIT Margin	13.5%
11.9%	13.7%	13.1%	Net Income Margin	11.9%
61.14	65.47	67.06	Avg. Exchange Rate (USD/INR)	64.45

# Q1 FY18 Performance Highlights – Consolidated

Q1 FY17	Q4 FY17	Parameters	Q1 FY18
Actual	Actual		Actual
120	121	Revenue from Operations (USD Mn)	128
8,029	8,123	Revenue from Operations (Rs. Mn)	8,226
231	41	Other Income (Rs. Mn)	262
18.6%	16.5%	EBITDA Margin	15.3%
16.3%	14.7%	EBIT Margin	13.5%
13.5%	11.9%	Net Income Margin	11.9%
66.85	66.99	Avg. Exchange Rate (USD/INR)	64.45

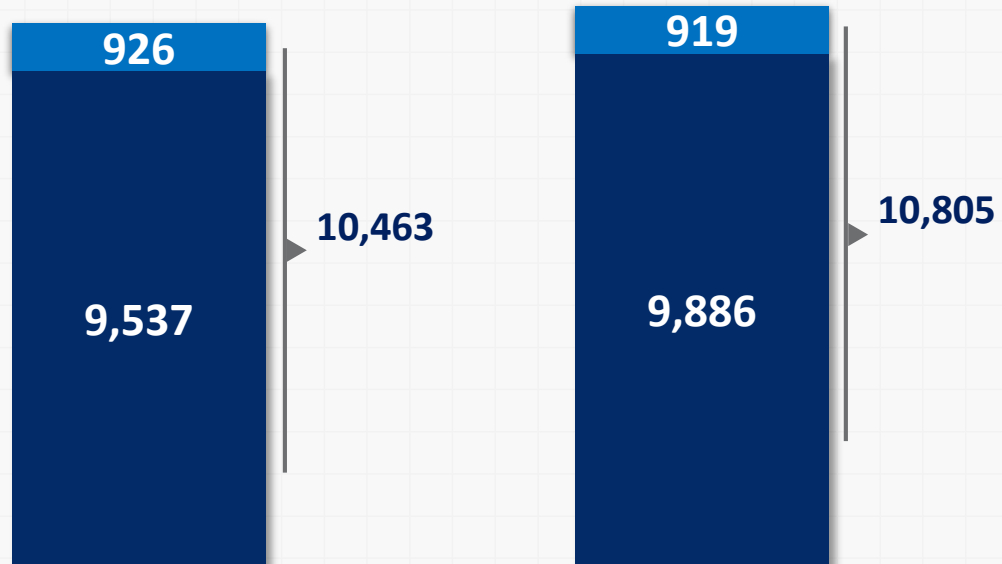
# Balance Sheet

		Rs. Crore
LTTS Consolidated As on 31/03/2017	Parameters	LTTS Consolidated As on 30/06/2017
20	Share Capital	20
1,465	Reserves & Surplus	1,603
(0)	Non-Controlling Interest	(1)
1,485	Total Equity	1,622
-	Non-Current Liabilities	20
<b>1,486</b>	<b>Total Equity &amp; Liabilities</b>	<b>1,642</b>
119	Tangible Assets	120
495	Intangible Assets	604
2	Capital Work in Progress	
65	Non-Current Assets	59
1,472	Current Assets	1,541
667	Less: Current Liabilities	682
805	Net Working Capital	859
<b>1,486</b>	<b>Total Assets</b>	<b>1,642</b>

# Operating Metrics

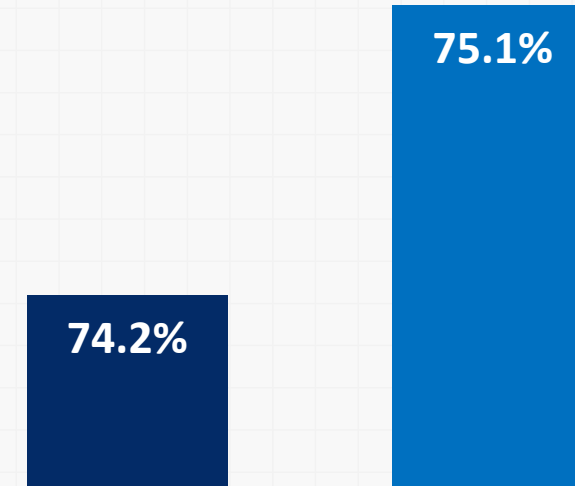
## Employee Metrics

■ Billable ■ Sales & Support



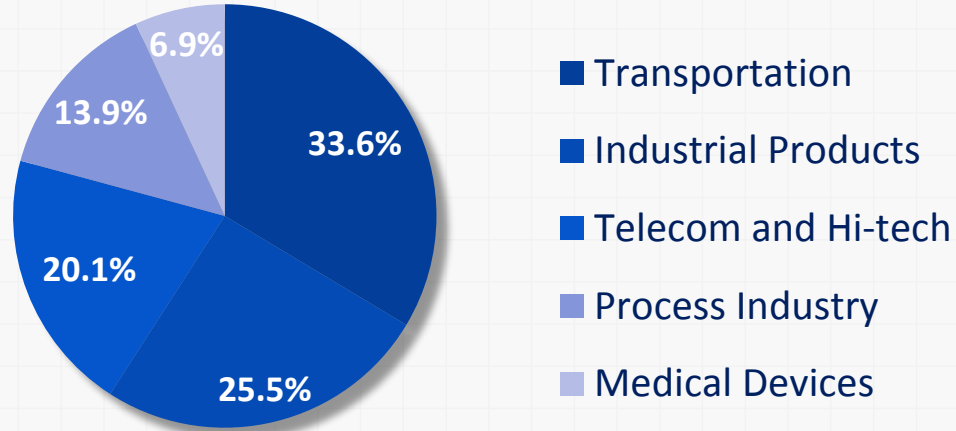
## Utilisation

■ Q4 FY17 ■ Q1FY18

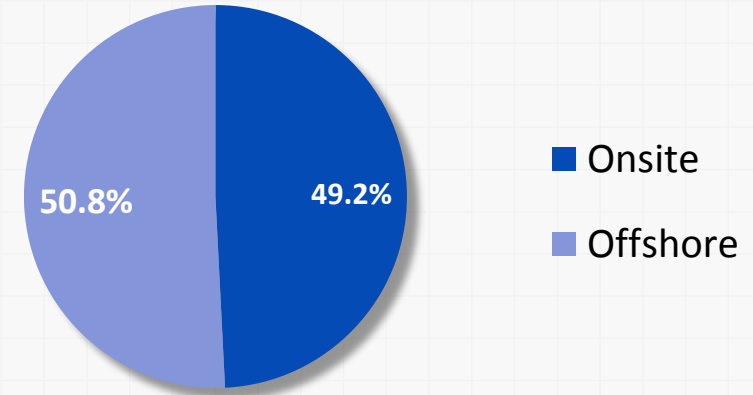


# Diversified Business and Geographical Mix

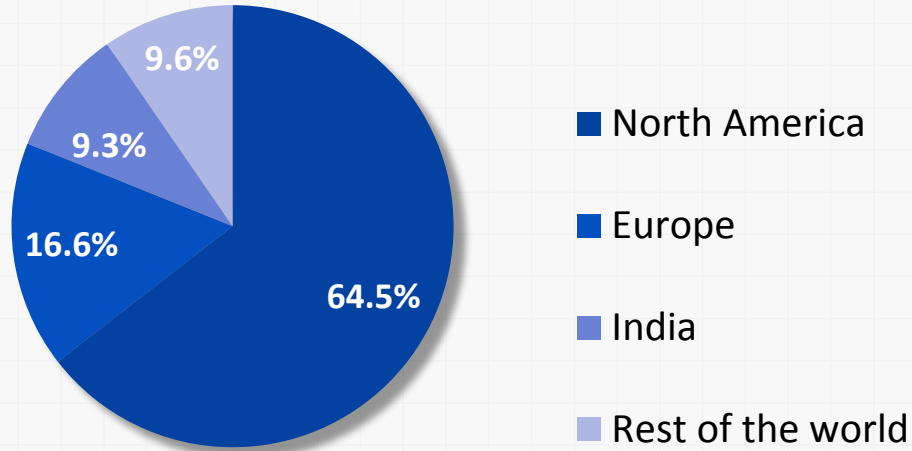
## By Vertical



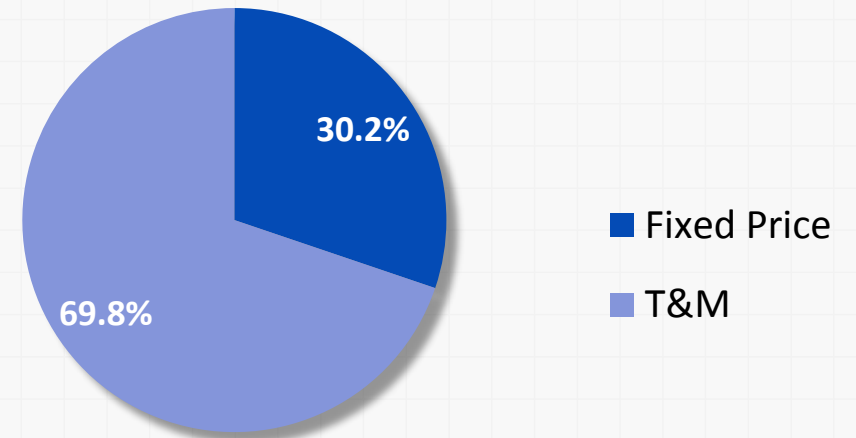
## Onsite vs. Offshore Split



## By Geography

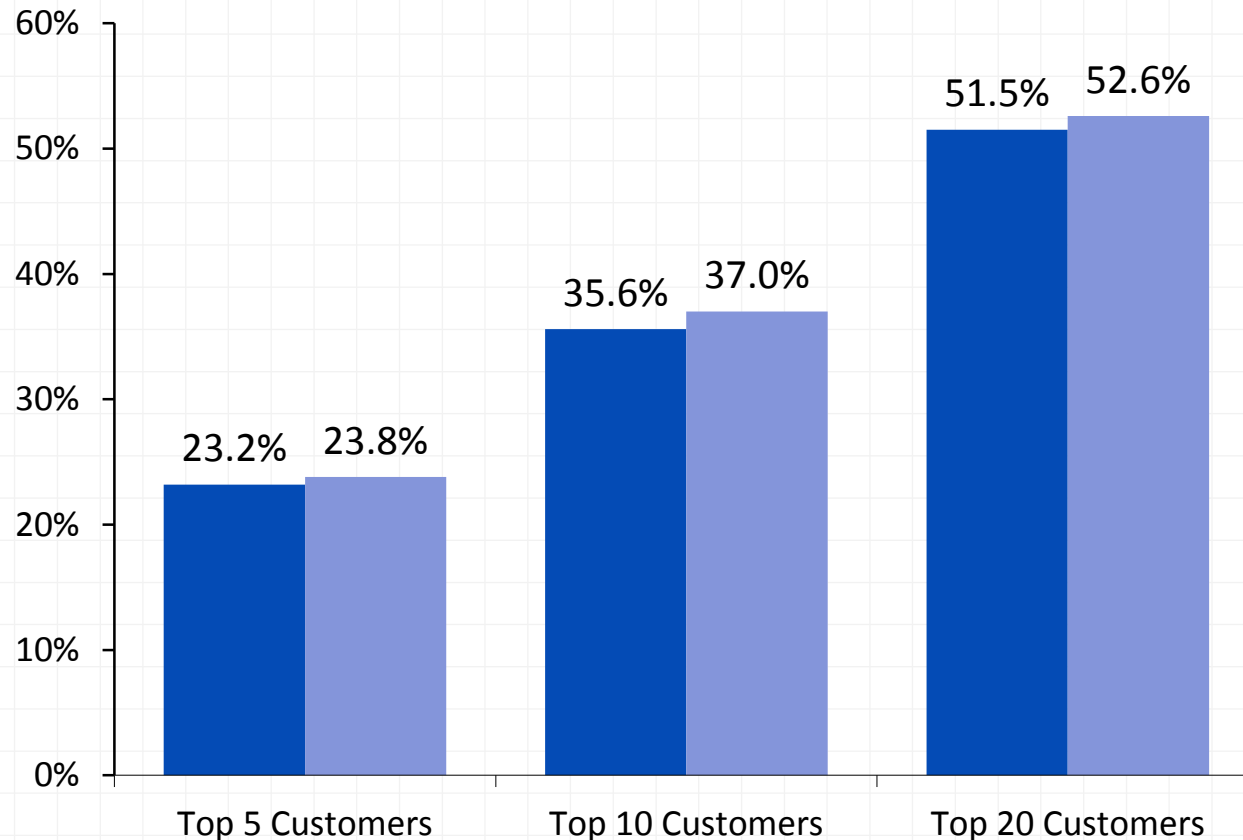


## Fixed Price vs. T&M



# Customer Base

## Client Contribution to Revenue



■ % of Consolidated Revenue for Q4 FY17 ■ % of Consolidated Revenue for Q1 FY18

## Revenue-wise Client Profile

Customer Revenue (USD Mn)	No. of Customers Q4 FY17	No. of Customers Q1 FY18
30 Million +	1	2
20 – 30 Million	2	1
10 – 20 Million	6	8
5 - 10 Million	21	16
1 - 5 Million	49	53

 Thank you. 

 *L&T Technology Services*

